To Cool Air for Homes

Frigidaire and the General Iron Works Co. have devised the Hot-Kold air conditioning system which cools air in summer, and heats in the winter. The evaporator is located in the left-hand chamber.

* * *

IRON CO., FRIGIDAIRE PLAN DOMESTIC AIR CONDITIONER

(*Concluded from Page 1, Column 5*)

cu. ft. of air per minute, circulates both the cold and warm air and is a part of the machine proper. In summer the warm air is pulled down from the rooms above through the return air ducts, passed through the central duct over the Frigidaire evaporator and through the by-pass from where, in its cooled and dehumidified form, it is circulated to the rooms.

The Hot-Kold plant is designed for homes of six or eight rooms. The heating unit is entirely automatic in operation, and the cooling unit can be either automatically or manually controlled.

Although conditioned air can be directed into all rooms simultaneously, the cooling system is so designed that the cooling can be confined to one or two rooms. This is accomplished by the installation of return air ducts in the rooms to be cooled. Either manual or automatic thermostatic controls can be provided to control the cooling unit.

Frigidaire engineers suggest that the living room be cooled during day and evening, and that one or two bedrooms be conditioned at night. In this manner considerable reduction in both temperature and humidity is possible. If the cooled air is turned into all rooms of the home, the reduction of both temperature and humidity will be considerably less.

The evaporator is the same as used in the new Frigidaire room cooler and is operated by a model FW-4150 Frigidaire compressor. This can be installed at the Hot-Kold unit, or at any convenient place in the basement.

Heating installations will be made by distributing representatives of the General Iron Works Co., and the cooling unit will be installed by Frigidaire distributing and dealer organizations, it was announced.

A. C. F. REFRIGERATED TRUCKS USE CARBON DIOXIDE

NEW YORK CITY—The American Car and Foundry Co., known for years as one of the leading manufacturers of railroad refrigerator cars, has in the last few years developed a line of refrigerated motor truck bodies for use in the transportation and delivery of ice cream, milk, meats and other packing house products. These refrigerated truck bodies have been designed to employ solid carbon dioxide as the refrigerant.

Metal Stampings
Unit Bases and Guards

Household Refrigerator Metal Panels—Exterior or Inside Panels and Food Compartments.
Louvered Panels — Special Trays or Panels — Water Cooler Panels.

MOTORS METAL MFG. CO.
5936 MILFORD AVE. DETROIT, MICH.

Valves and Fittings
V and Cog Belts
Refrigeration Tube
Motor Brushes
Gaskets
Rubber Parts for Ice Cream Cabinets
Pressure and Compound Gauges
Service Tools
and other refrigeration parts and accessories

Prompt delivery to manufacturers, distributors, dealers and service organizations.

W. A. Griffin Products Co., Inc.
1157-63 Atlantic Ave., Brooklyn, N.Y.

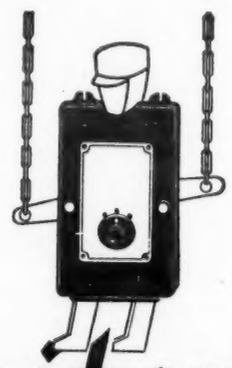
100% PROFIT
To You—Starting NOW

FILL that off season gap. Keep your volume at a steady pace through the months that are slack in the refrigerator field. Sell The Electric Janitor, the simple, reliable, all-electric, motor-driven, easily installed heat regulator that is made by the largest manufacturers in the temperature control field—the Minneapolis-Honeywell Regulator Co. The Electric Janitor will fit in perfectly with your present sales and installation set-up. Its principles are identical with electric refrigeration—Health—Convenience—Economy.

THE ELECTRIC JANITOR	
Consumer Price Plus Installation	$49.00
Trade Price	24.50
DEALER PROFIT	$24.50

100% net plus installation profit
Limit Controls available at slight extra cost

The Electric Janitor will enable you to keep your sales and installing force intact throughout the year with an established and approved line of merchandise. Packed complete. Easily and quickly installed. Write today for full information.

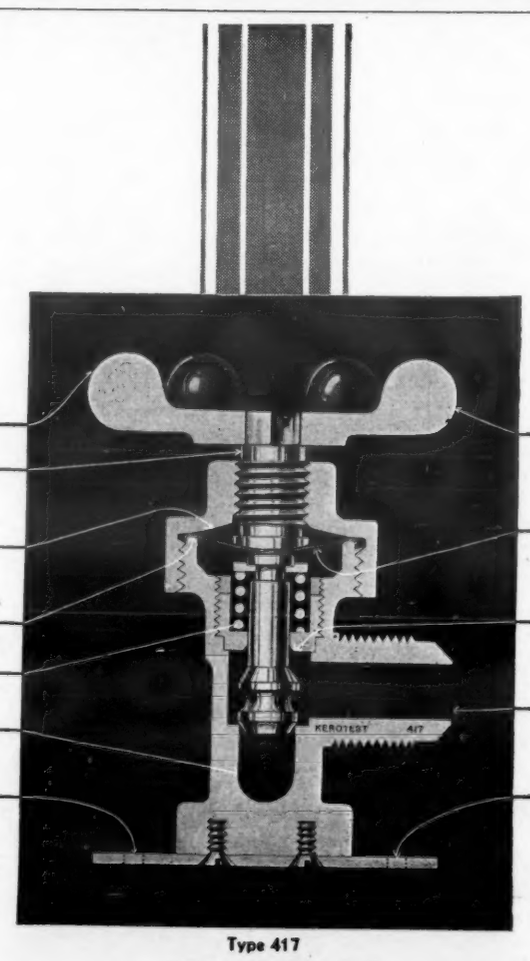


The Electric Janitor

PRODUCT OF
TIME-O-STAT CONTROLS
Division of the MINNEAPOLIS-HONEYWELL REGULATOR COMPANY
MINNEAPOLIS MINNESOTA AND ELKHART, INDIANA

KEROTEST
multiple diaphragm
REFRIGERATION VALVES

Multiple monel metal diaphragms . . . impervious to all refrigerants . . . replaceable with valve under pressure . . . no soldered joints . . . unrestricted openings . . . PRESSURE TESTED TO 11,250 POUNDS BY UNDERWRITERS' LABORATORIES IN FULL OPEN, HALF OPEN AND FULL CLOSED POSITIONS . . . ALSO TO DURABILITY TEST OF 50,000 CYCLES OPEN AND CLOSED. Get all the facts and prices from your nearest distributor today.


Only 3½ inches high when full open
Strong bronze stem of generous proportions
Radius in forged brass cap fully supports diaphragm when stem is in full open position
Metal seal of cap, diaphragm and body
Chrome plated strong steel spring, reciprocating movement of handwheel
Unrestricted openings equal to inside diameter of tubing
Heavy steel mounting flange, Cadmium plated
Large handwheel specially knobbed for firm hand grip
Multiple Monel Diaphragm impervious to all refrigerants—replaceable with valve under pressure
"Pressure tested" metal to metal back seat when stem is in full open position
Maximum size ¼-inch S.A.E. on all 3 openings
Holes in mounting flange accessible for attachment in shallow knockout boxes
KEROTEST 417

Type 417

KEROTEST MFG. CO., PITTSBURGH

KEROTEST

Distributed by

Boston, Massachusetts - - 110 High Street — A. E. Borden Co.
Newark, N. J., Jefferson and Chestnut Sts. — McIntire Connector Co.
Philadelphia, Pennsylvania, 523 Arch Street — Fretz Brass & Copper Co.
Greensboro - - - - - - - - - North Carolina — Home Appliance Service Co.
Cincinnati, Ohio - - - - - - Burbank Street — The Merkel Bros. Co.
Detroit, Mich., 6-247 General Motors Bldg. — W. H. Mark Hanna
Chicago, Illinois, 2317 W. Marquette Road — G. C. Taylor
St. Louis, Missouri, 2817 Laclede Avenue — Brass & Copper Sales Co.
Los Angeles, California, 224 East 11th Street — Van D. Clothier
San Francisco, Calif., Merchants Exchange Bldg. — A. W. V. Johnson

EXPORT DISTRIBUTORS
New York City, New York, 116 Broad Street — Melchior Armstrong, Dessau Co., Inc.

BRANCH OF THE
COLLEGE OF AGRICULTURE

TO BE ISSUED WEEKLY
BEGINNING SEPT. 9

Merchandising Section

IN TWO PARTS
PART ONE

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

ISSUED EVERY TWO WEEKS
VOL. 5, NO. 25, SERIAL NO. 127

Copyright, 1931, by
Business News Pub. Co.

DETROIT, MICHIGAN, AUG. 12, 1931

Entered as second class matter
Aug. 1, 1927, at Detroit, Mich.

FIFTEEN CENTS PER COPY
TWO DOLLARS PER YEAR

JULY KELVINATOR SHIPMENTS 49% OVER '30 PERIOD

Quarter Profit $1.44 Per Share; To Retire Bond Issue

DETROIT—Shipments of the Kelvinator Corp. for the month of July ran 49 per cent higher than those for the same period in 1930, an announcement made by H. W. Burritt, vice president in charge of sales, states.

"Orders on hand August 1 were greater than those on hand a year ago," Mr. Burritt said. "June shipments this year were 40 per cent ahead of those for the same period in 1930."

Kelvinator announced two other financial news items recently—the net profit for the quarter of $1,714,407 before the deduction of federal taxes and the retirement of all its outstanding 6 per cent convertible gold notes at a call price of 105.

The quarterly profit is higher than it was estimated previously by company officials. Share earnings amount to $1.44 for the quarter while the earnings for the same period in 1930 were $1.26 a share or a total profit of $1,469,933.

Profits figures for the quarter do not include earnings from Refrigeration Discount Corp. and Kelvinator of Canada, subsidiaries.

The financial statement shows that the corporation has no bank loans and the ratio of current assets to current liabilities is 9.8 to 1.

Kelvinator's 6 per cent convertible gold notes will be retired September 30, 60-day notice of the retirement being given. The only bonded indebtedness which will be left is the building bonds of the corporation.

At the present time, Kelvinator shows a working capital of $7,432,000.

Derby Dope

DETROIT—Daily shifting in the line-up of the race horses at the 10 Kelvinator derby tracks causes shifting in odds on the favorites among officials of the Kelvinator Corp. who watch the big scoreboard daily for upsets in the running order.

Three furlongs of the 10 furlong race have been completed. The derby will end September 15 and a purse of $18,000 will be divided among the winning salesmen.

John J. Wheelihan, Public Service Gas & Electric Co., Newark, N. J., was the first Kelvinator salesman to receive a pari-mutuel ticket in the derby. The standing is determined by the number of pari-mutuel tickets held by the distributors.

A large number of letters are received from all sections of the United States each day in the "Comparison

(Concluded on Page 15, Column 5)

LECTRIK-ICE FIRM PLANS MARKETING OF NEW UNIT

ERIE, Pa.—Marketing plans for the Lectrik-Ice household refrigerator are being extended by the appointment of special refrigeration distributors, in addition to the 40 distributors who have regularly handled water pumps, softeners, heaters, and recently refrigerators made by the Uniflow Mfg. Co., according to C. A. Kuebler, president.

Since the first units were placed in the field two years ago, he claims, approximately two thousand have been sold, and their operation observed. About 30 refrigerators a day are now being manufactured in the plant here.

To date, M. A. Martin, sales manager, has arranged for specialty distribution of Lectrik-Ice refrigerators in the fol-

(Concluded on Page 2, Column 5)

NORGE BALTIMORE FORCES SELL 20 UNITS DAILY

BALTIMORE, Md.—The sales campaign inaugurated on the Norge electric refrigerator is resulting in a daily sales average of 20 to 25 refrigerators in this market, according to L. L. Andrews, president of Columbia Wholesalers, Inc., Norge distributor.

Auto-Lite Gets Option On Whitehead Unit

TOLEDO—The Electric Auto-Lite Co., manufacturers of automotive starting and lighting devices, has secured an option on the purchase of the Whitehead refrigerator patents and all rights and goodwill pertaining to the same and are contemplating going into production as soon as satisfactory connection and commitments are secured.

D. H. Kelly, vice president, is general manager of the company. Earle E. Merrett is in charge of the refrigeration division.

G. E. DISTRIBUTORS OPEN CAMP AUG. 19

CLEVELAND—Distributors of General Electric refrigerators are getting all set for four days of recreation and constructive planning at Camp Refrigeration V, which will be held August 19, 20, 21, and 22 at Association Island, Henderson Harbor, N. Y.

Held annually at Association Island, "Camp Refrigeration" is the fall conclave of G. E. distributors with the headquarters staff, at which plans are laid and a program worked out for the coming year.

This year the theme of the proceedings will be an election campaign. Official costume will consist of white trousers, white shirt, white (or black and white, or tan and white) shoes, and white hat.

Special trains carrying distributors and officials of the General Electric refrigeration department will leave New York City, Schenectady, and Cleveland on the night of August 18, all arriving at Adams, N. Y., early in the morning of August 19.

Harry C. Mealey is camp manager, and W. E. Hart heads up the transportation committee.

BUTCHERS URGED TO ENTER GROCERY BUSINESS

WEST BADEN, Ind.—Butchers were told to go into the grocery business at the 46th annual convention of the National Association of Retail Meat Dealers, held here August 3, 4, 5, and 6. The feature of the convention was a model food store, which included grocery, fruit, vegetable, and dairy products departments.

COPELAND COOLER SHOWN AT SALES STAFF MEETING

Distributors Hear Talks By Ruthenburg and McElhinny

By Elston D. Herron

MT. CLEMENS, Mich.—Sixty Copeland distributors from all sections of the United States were officially introduced to the new Copeland room cooler when they gathered for a one-day convention and pep meeting with factory and branch heads on July 29.

Seated top-coated and blanketed in the service school room of the Copeland factory, which was cooled to a temperature of 78° F. by four of the new cooler units, as compared with the 101° heat outside, distributors heard W. D. McElhinny, vice president in charge of sales; Louis Ruthenburg, president, and H. T. Kessler, president of the company's Chicago branch, outline the

(Concluded on Page 2, Column 3)

Every Week!

As announced in the last issue, Electric Refrigeration News will be published weekly, beginning September 9.

The Engineering Section, printed on green paper, will be continued, appearing every two weeks as in the past.

Also as announced in the last issue, the Refrigerated Food Section of the News will become a separate monthly publication, Refrigerated Food News, beginning September 1. Anticipating the increased size and service of the new paper, Electric Refrigeration News carries no Refrigerated Food Section with this issue.

National Pumps Buys Dayton Corporation

DAYTON, Ohio—National Pumps Corp., Dayton, recently acquired controlling interest in the Dayton Refrigeration Corp., manufacturers of a complete line of household refrigerators.

The managing personnel of the refrigeration division will remain the same. General offices of the division are located at the pump corporation.

At the present time, manufacturing of compressor units is being done in the factory of the National Pump Corp. while the refrigerator assembly plant is being enlarged.

COOLERS PLACED IN EDISON'S SICK ROOM

NEWARK, N. J.—The electric room coolers which helped keep Thomas Edison comfortable during his recent illness were originally ordered for Otto H. Kahn, the New York banker, according to Samuel Scott, manager of the local division of Frigidaire Sales Corp.

Mr. Edison had been bothered by the heat for several days and his physicians feared it would delay the improvement in his condition. Mrs. Edison accordingly placed an order for two room coolers. In order to save time Mr. Scott appealed to Mr. Kahn, in whose home preparations had been made to set up the systems.

Mr. Kahn gave permission to have the apparatus transferred to the Edison home. Three crews of men installed the machinery and within half an hour after they began operating the temperature in the upper rooms was reduced from 80° to 72°, according to reports from the sick room.

The following morning approximately 14 quarts of water were emptied from the drip pans in the coolers, all of which had been removed from the air in the room. The second morning after the installation the temperature had been reduced to 70° which was too cold for the patient to bear and one of the coolers had to be temporarily turned off.

In spite of his illness Mr. Edison manifested extraordinary interest in the installation. On the second morning he was able to walk to one of the coolers. He took the lid off, looked at the fan, opened the drip pan at the bottom and asked a number of questions.

Last winter, Mr. Edison became acquainted with room coolers in Harvey Firestone's Florida home.

MAJESTIC SHOWS $112,374 PROFIT SINCE MARCH 11

Loss of $2,169,761 for Fiscal Year Reported

CHICAGO—Grigsby-Grunow Co. and subsidiaries have reported consolidated net profit for the period from March 11, 1931, the date of acquisition of Majestic Household Utilities Corp., to May 31, 1931, of $112,374.

For the fiscal year ended May 31, the company reported net loss of $2,169,761, including non-recurring chargeoffs aggregating $2,020,389.

The financial position of Grigsby-Grunow Co. as of May 31 was the best in its history. Cash at the close of the fiscal year amounted to $2,364,655 with no bank loans, compared with cash of $936,850 a year ago and bank loans of $1,000,000. Net working capital amounted to $5,034,021 with a ratio of current assets to current liabilities of 2.7 to 1.

The non-recurring charges of $2,020,389 mentioned above, consists of allowances for reduction in prices of tubes sold to distributors of $981,571, amortization of licenses, patents and tube development accounted for $519,520 and settlement of patent litigations and con-

(Concluded on Page 15, Column 1)

$11,000,000 in Orders

CHICAGO—Orders for more than $11,000,000 worth of merchandise for delivery before October 1 have been received by Grigsby-Grunow Co. from its distributors within the last 10 days, according to B. J. Grigsby, chairman of the board.

The orders, based on retail value, include refrigerators, radios, and tubes.

Distributors Meet

CHICAGO—New developments in the radio and refrigeration industries were explained to one hundred men, representing 42 distributing companies, who convened in a two-day meeting July 29 and 30 with field men and factory executives of Grigsby-Grunow Co., manufacturers of Majestic refrigerators.

Another bit of business accomplished in the meeting was the definite settlement of several basic policies of the company. The meetings were held in the Louis XVI room while the banquet was held in the Balloon room of the Congress hotel.

"The meeting of Majestic distributors was the most business-like, effective and pleasing to the distributors in the history of our company," Duane Wanamaker, vice president in charge of advertising, said at the completion of the meeting.

B. J. Grigsby, president and chairman of the board, opened the session with

(Concluded on Page 15, Column 1)

SPARKLETS DEMONSTRATES PRODUCTS IN BALTIMORE

NEW YORK CITY—Sparklets, Inc., this week will open in Baltimore the first of a chain of "Sparklets demonstration centers," furnished with a cooperative display of leading electric and gas refrigerators, a line of refrigeration accessories, and a featured stock of Sparklets supplies.

According to A. E. Fein, president, and L. E. Schleber, sales manager, other stores will be established before the end of the year in Washington, D. C., Philadelphia, Newark, New York City, New Haven, Providence, Boston, Worcester, Springfield, Mass., Albany, Syracuse,

(Concluded on Page 2, Column 4)

JULY HOUSEHOLD DIVIDENDS TOTAL $1,695,800

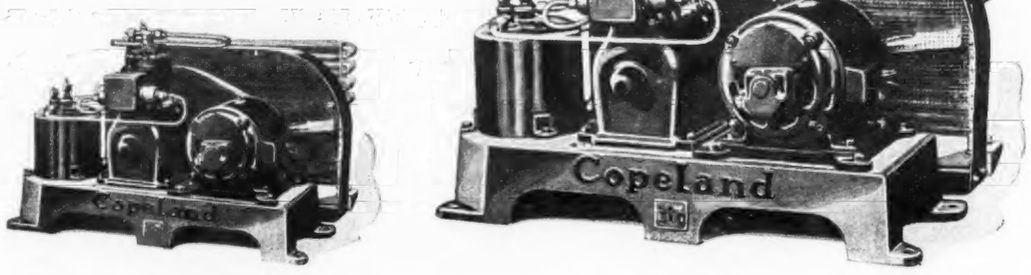
NEW YORK—Dividends paid by companies dealing in household products in July amounted to $1,695,800, according to the Standard Statistics Co. Total cash dividend payments made by domestic corporations in July were $516,995,367.

In the Judges' Stand

Sales Manager J. S. Sayre, Vice President H. W. Burritt, and President George W. Mason (from left to right) of the Kelvinator Corp. oversee the sending of the first pari-mutuel ticket for the Kelvinator Derby sales campaign. Salesman John J. Wheelihan, Public Service Gas & Electric Co., Newark, N. J., was the recipient of the ticket.

COPELAND COMMERCIAL

63% AHEAD IN SALES!



1930 1931

SELL COPELAND COMMERCIAL FOR GREATER FALL PROFITS

Sales of Copeland Commercial Refrigeration units for the first eight months of Copeland's 1931 fiscal year have increased more than 63 per cent over the corresponding period of 1930.

In spite of general business conditions Copeland distributors and dealers are installing more commercial equipment than ever before. Of course there's a reason.

Competition and narrow profit margins are compelling groceries, meat markets, restaurants and other stores to install modern refrigeration—not only because business goes to establishments that are completely up-to-date, but because mechanical refrigeration is substantially reducing preventable food losses in retail operations.

The 1931 Copeland line of Commercial Equipment is the finest and most advanced Copeland has ever offered. It is only natural that it is being chosen by a constantly widening circle of business users.

Copeland distributors and dealers who are prepared to push Copeland Commercial this Fall are in line for substantial increases in profits. Write for complete information on Copeland's Fall plans, including details on new Copeland products which widen the market, present new money-making opportunities.

COPELAND SALES COMPANY
332 Cass Avenue, Mount Clemens, Michigan

COPELAND
DEPENDABLE • ELECTRIC • REFRIGERATION

Copeland Distributors Are Shown New Room Coolers At Convention

(Concluded from Page 1, Column 3)

cooler's specifications and sales possibilities.

A description of the cooler will be found on page 1 of the Engineering Section.

Following the reports and addresses, the convention was given over to talks and discussions dealing with sales promotion problems. Mr. Ruthenburg emphasized the necessity of flattening the sales curve through consistent sales efforts by distributors, dealers and retail salesmen, even when sales peaks stand at new marks.

He asked those present to realize that they were specialty salesmen, with opportunities to use their own ideas—that they were not merely venders of "packaged goods."

"The home owner is not going to be long satisfied with the present type of refrigeration," he predicted. "Soon the home builder will require a food cabinet for the kitchen, and an ice-making cabinet; he will install a small refrigerator chest in the guest room, another cabinet in the recreation room, and to make the home complete, he will want his entire home equipped with cooling apparatus."

H. A. Brysellbout of the commercial engineering department opened the afternoon meeting with a technical discussion of the new room cooler. Mr. McElhinny followed this talk with an address on features added to Copeland models to increase sales.

Ralph M. Douglass, advertising manager, outlined for the distributors plans for sending sales promotion literature to all dealers during the remaining weeks of the campaign.

Then came a veritable barrage of suggestions fired by Mr. McElhinny on the distributors as to how they may increase sales in their territories. Mr. McElhinny said:

"Train your sales forces better; do more advertising; get and keep a prospect file; change your store arrangement occasionally; put some room coolers in the place—make it *feel* like a refrigerator store; hire one or two good salesmen to help dealers close their sales.

"Have a home demonstration week; use the free trial installation idea, but use some judgment in selecting your prospects; hold prize contest dinners for dealers; give every dealer and salesman a quota; don't be afraid to write personal letters to individual salesmen—encourage them, they like it.

"Get a full line of Copeland models and display them to the best advantage; mark your trucks; see that the name Copeland gets into the telephone books; put a sign up outside a house while you're installing a refrigerator there; get department store managers to merchandise your refrigerator."

He urged distributors to push sales of the Copeland gasoline driven unit in territories without electricity, and told them to place one of the units on a truck and display it everywhere possible.

Another speech by Charles Hadden, sales manager, followed a brief tour of the Copeland factory. The speaker voiced the fear that electric refrigerator salesmen are under-selling their product—that they are being content with sales of small units when de luxe models could be just as easily sold, and would give more efficient service to owners.

Distributors heard an address on the importance of apartment house sales given by K. S. Baxter, president of the New York City branch, and highest ranking Copeland apartment salesman in the United States.

"Don't overlook apartment house sales," was Mr. Baxter's advice. "The profit per unit is low, but the gross return is good. This line of sales also concentrates the field of owners, and lessens by a considerable margin the cost per call of the service department."

He also explained that apartment sales are not seasonal, with the result that several good deals considerably flatten the sales curve by concentrating on apartment house owners.

A. L. Bogue, assistant manager in charge of commercial equipment, repeated Mr. Baxter's suggestion about selling equipment for new establishments before one stone of the foundation has been laid.

One suggestion comprised the major part of a speech given by Harry Newcomb, termed by President Ruthenburg as "guardian of the distributors' interests."

Mr. Newcomb suggested that the "service curve" be flattened by the distributors' sending out letters, in the late winter or early spring, asking a small sum for completely overhauling every Copeland in the community.

SPARKLETS DEMONSTRATES PRODUCTS IN BALTIMORE

(Concluded from Page 1, Column 5)

Rochester, N. Y., Buffalo, Cleveland, Dayton, Cincinnati, and Pittsburgh.

The company plans to open units next year on the Pacific coast, and in southwestern and southeastern sections of the United States.

LECTRIK-ICE FIRM PLANS MARKETING OF NEW UNIT

(Concluded from Page 1, Column 1)

lowing cities: Chicago, Philadelphia, San Francisco, Rochester, N. Y., Utica, N. Y., Syracuse, N. Y., and London, Ontario. The Auriema Co. of New York City is handling export shipments.

Eight field men are now traveling around the country to interview prospective distributors, and disseminate information about the new electric refrigerators. Each new distributor must send a man to the factory here for a week's educational work in the sales and servicing of the machine.

Two Papers for the Price of One!

This Offer Good Only Until September 30th

SUBSCRIPTION ORDER

Electric Refrigeration News
550 Maccabees Building
Detroit, Michigan 1931

Gentlemen: Please enter my subscription to ELECTRIC REFRIGERATION NEWS.

United States and Possessions: ☐ $2.00 per year ☐ Three years for $5.00
All other Countries: ☐ $2.25 per year ☐ Two years for $4.00

I understand that ELECTRIC REFRIGERATION NEWS, which has been issued every two weeks, will be issued *every week* beginning Sept. 9, 1931.

I also understand that the *Refrigerated Food Section,* which has been Part II of each issue, will become a separate publication to be issued *once a month* beginning Sept. 1, 1931, but that I will receive the new paper, REFRIGERATED FOOD NEWS not to exceed one year without extra charge, *provided* my order or renewal is mailed on or before Sept. 30, 1931.

I am enclosing payment in the form of ☐ Check ☐ P. O. Order ☐ Cash

Name .....

Attention of
or Care of.....

Street Address .....

City and State.....

Special Rates for Group Subscription Orders

For paid-in-advance subscriptions in United States only. Send check with order. Charge orders are billed at the full rate, regardless of number. Papers will be mailed to individual addresses. This offer expires December 31, 1931.

5 or more subscriptions entered at one time, $1.75 per year each.

10 or more subscriptions entered at one time, $1.50 per year each.

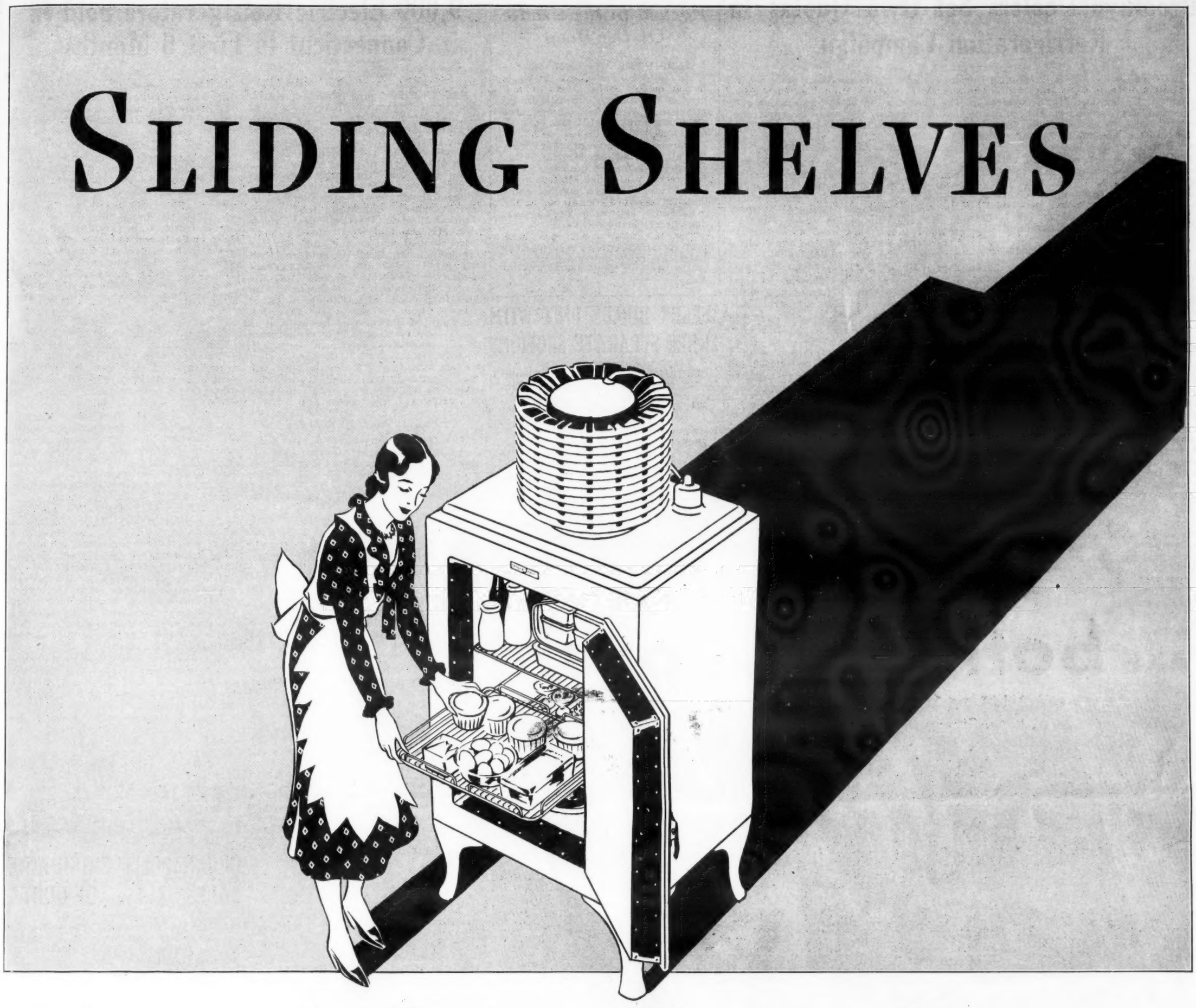
20 or more subscriptions entered at one time, $1.25 per year each.

50 or more subscriptions entered at one time, $1.00 per year each.

NOTE: The above reduced rates will not apply to orders received after December 31, 1931.

8-12-31

SLIDING SHELVES



An Exclusive Feature of

GENERAL ELECTRIC REFRIGERATORS

EXCLUSIVE features are big talking points—big aids in selling. That's why dealers are so enthusiastic over the new sliding shelves of General Electric Refrigerators.

Sliding shelves are another new refinement in the electric refrigeration industry—a feature that the prospect quickly appreciates—a modern development that reduces sales resistance to a minimum . . . one that increases the usable shelf space to a maximum.

They bring food within sight and easy reach. With sliding shelves there is no reaching around dishes . . . no spilling of foodstuffs . . . no soiling of sleeves . . . no refrigerator space going to waste.

Like the famous Monitor Top—which revolutionized the electric refrigeration industry by hermetically sealing all the mechanism—sliding shelves, too, are exclusively General Electric. No other refrigerator has them. They're a big talking point—a big sales aid, as enthusiastic dealers everywhere testify.

Other General Electric advantages are the Monitor Top principle, the All-Steel cabinet with its acid-resisting porcelain interior, the sanitary porcelain super-freezer with its full vision—"easy to clean" construction. These and many others—backed by an unqualified 3-year guarantee on the entire refrigerator and lower prices present a value that is breaking sales records all over the country.

General Electric Company, Electric Refrigeration Department, Section DF81, Hanna Bldg., 1400 Euclid Avenue, Cleveland, Ohio.

Join us in the General Electric Program, broadcast every Saturday evening, on a nation-wide N. B. C. network

GENERAL ELECTRIC

ALL-STEEL REFRIGERATOR

DOMESTIC, APARTMENT HOUSE AND COMMERCIAL REFRIGERATORS · ELECTRIC WATER COOLERS

Brooklyn Dealers Set Own Quotas In Refrigeration Campaign

BROOKLYN, N. Y.—Following up the campaign inaugurated July 1 by the Brooklyn Union Gas Co. for dealers of approved gas appliances, the company has started a "Great American Servant" refrigeration campaign for the months of August and September.

The plan of the campaign calls for each deaer to set up a sales quota for the two months. Each dealer participating in the campaign, however, is eligible for special prizes providing he agrees to a quota of at least three Electrolux refrigerators per month.

Delivery Before Oct. 15

The prizes for the dealer are based on his making his quota, sales consisting of delivery not later than October 15. Prizes of $7.50 per refrigerator are offered for the original three in the quota and each additional box sold.

Should the dealer furnish a productive lead, he receives a prize in addition to present lead compensation, amounting to $3.75 and one-half point toward quota. Dealers participating in the campaign have also been offered educational instructions for their employes on certain nights of the week.

Announcement of the campaign was made by Hugh H. Cuthrell, manager of the new business department, in a letter to the three master plumbers' organizations in the territory served by the Brooklyn Union Gas Co.

Contests Boost Sales

In addition, letters were sent to the 116 dealers displaying refrigerators which have been consigned them by the gas company. Other dealers in gas appliances, of course, have the privilege of participating.

The progress of the dealer-cooperation movement in Brooklyn is realized by a study of the appliance sales record of the Brooklyn Union Gas Co. Since the inauguration of the movement over two years ago, the sales of appliances have been steadily mounting.

60% Ahead of 1930

Dealer sales during 1930, the first complete calendar year of operation, reached $239,596.78 worth of appliances, while an additional $125,878.41 worth was sold through dealers' prospect leads. For the period ended June 30, 1931, dealers' purchases amounted to $142,837.46, while sales through dealers' prospect leads totalled $81,291.99.

Dealers' purchases for the first half of the year are 60 per cent of the total for the full twelve months of 1930, while the sales through dealers' prospect leads are 65 per cent of the last year's figure.

Gas appliance sales of the Brooklyn Union Gas Co. during the week ended July 11 were the third highest reached this year. The week's sales totaled 633 units, which is nearly 57 per cent higher than the figure for the corresponding week last year.

Two hundred-ninety-three Electrolux gas refrigerators were sold, 221 at wholesale and 72 at retail. The wholesale figure was also the third highest for 1931.

189 Sales In Week

For the week ended July 18, 189 Electrolux refrigerators were purchased through the company, 113 at wholesale and 76 at retail.

The retail figure was the fourth highest this year, and was only 22 under the 1931 record established during the week of June 6 when 98 Electrolux refrigerators were sold to the housewives of Brooklyn and Queens.

Rocked in the Cradle Of the Deep

MARSHFIELD BEACH, Mass.—A day or two under salt water is not supposed to be good for any kind of machinery, but such an experience failed to damage the Frigidaire owned by Mrs. A. H. MacDowall.

The beach home of Mrs. MacDowall, located on Hartford Rd., collapsed during an unusually high tide recently and her kitchen stove and Frigidaire were washed some distance seaward, remaining in the sand and saltwater for several days before being recovered.

The refrigerator was put back into operation with no repairs other than the replacement of two ice trays which had been washed away.

SEEGER BUILDS UNIT WITH THREE SEPARATE SECTIONS

CHICAGO—Installation of a built-in Seeger refrigerator with three separate compartments has been completed in the Washington and Jane Smith home here by the local branch of the Seeger Refrigerator Co.

One of the sections is for dairy products, the second for fruits and vegetables, and the third for meats. The unit is insulated with four inches of corkboard and the partitions between the various compartments have two inches of corkboard.

Kelvinator coils and compressors are used in the unit and they were sold by the Commonwealth Edison Co. The compressor is regulated so as to give different temperatures in each compartment.

The floor of the refrigerator is white tile while the kitchen floor is terrazzo.

9,000 Electric Refrigerators Sold In Connecticut In First 6 Months

By Charles B. Barr

HARTFORD, Conn.—More than 9,000 electric refrigerators were sold in Connecticut during the first six months of 1931, a survey of leading distributors in the territory indicates. While figures are not complete, confidential returns from distributors of seven leading units make it appear that the sales total would at least reach that amount.

The following makes are included in the estimate: Copeland, Ice-O-Matic, General Electric, Westinghouse, Frigidaire, Majestic and Kelvinator.

In several cases the difficulty of breaking down totals to conform with the territorial limits made an exact estimate impossible. Several of the larger distributors in Connecticut also take in portions of adjoining states.

In 14 cities covered by the Connecticut Light & Power Co., however, it is estimated that about 14,000 refrigerators of all makes have been sold since 1924. These cities are Waterbury, New Britain, Norwalk, Greenwioh, New Milford, Meriden, Danielson, Lyme, Norwich, Bristol, Thompsonville, Winsted, Rockville, and Willimantic.

Power Sales, 1,600 Units

The 14,000 estimate for this territory is based upon the assumption that the power company handles approximately half of the refrigerator sales in its own territory, according to C. A. Byron, assistant to Merchandising Manager W. M. Walsh.

During the first six months of 1931, the power company sold more than 1,600 refrigerators, counting domestic and commercial together. Of this number, 1,346 were disposed of through a special refrigerator campaign in which the original quota was 875, Mr. Byron reports.

This drive was designated as the "STS Campaign," the initials being worked out into a number of slogans, such as "Sell the Service," "Stop the Shopper," etc.

A large number of individual and group prizes were awarded. Quotas were assigned to each district, and the lowest score was an even 100 per cent, others ranging upward to 266.6 per cent.

The power concern handles Frigidaire in partically all its stations, with four stations selling Westinghouse in addition to Frigidaire, one selling Westinghouse and General Electric, and one handling General Electric alone.

On the basis of the appended table of C. L. & P. sales for the past eight years, it is possible to trace the progress of sales in the state. The table follows:

Electric Refrigerators Sold	
1924	26
1925	157
1926	349
1927	813
1928	1,342
1929	1,930
1930	1,863
1931	2,115 (estimated)

Mr. Byron believes that the figure for 1931 will probably reach 2,400 at present indications, instead of the estimated 2,115. It is believed by the power company that total sales of all other dealers for all makes in the same territory closely paralleled those shown above, probably running below them for the first few years.

Distinct gains in domestic sales volume were reported by a number of distributors and dealers. On the other hand, with but one or two exceptions, the commercial total has fallen off sharply.

One strange development of the current season, according to Norman K. Fuller, sales promotion manager for the Connecticut Electric Refrigerating Co., New Haven, state distributor for Westinghouse, is that in contrast to other years, sales for April, May, June and July have held about the same level, with July business likely to be the best of the year.

"In other words," Mr. Fuller, said, "the refrigeration season this year is being decidedly prolonged." His statement was echoed by representatives of several other makes.

F. E. Stern of Stern & Co., this city, Majestic distributor for seven of Connecticut's eight counties, western Massachusetts and the state of Vermont, reported the sale of 1,200 units for the period. Mr. Stern emphasized the fact that this figure represented dealers' sales only, not wholesale shipments, and did not include apartment house installations.

G. E. Sales Double

General Electric's sales volume in the Bridgeport area has thus far been double that of last year in the same period, according to Everett Allen of Allen Bros., Bridgeport dealers for G. E.

J. E. Logan of the Tucker Machine Co., Bridgeport, Kelvinator distributors for Fairfield county, reports a late spurt in domestic sales, starting about June 15th. Previously the volume had been entirely satisfactory, but the increase was notable nevertheless, Mr. Logan said.

C. F. Ganter, refrigeration manager for the New Haven Electric Co., New Haven, Conn., and Western Massachusetts distributor for Copeland, cited large increases in sales volume over 1930, while Plymouth Electric Co., New Haven, new distributors for Ice-O-Matic in Connecticut, Rhode Island and western Massachusetts, was declared by R. J. Mailhouse, president, to be enjoying a satisfactory volume considering that the concern has been handling refrigerators but four months.

One concern which reported heavy volume in commercial refrigeration was the Frederick Raff Co., Hartford, Kelvinator distributors for parts of Connecticut and Massachusetts.

Hartford appears to be one of the few Connecticut cities in which commercial volume has been maintained to any degree.

A distinct trend toward refrigerators of 5 and 6 cu. ft. capacity has been noted in several of the larger industrial cities, however, indicating that while the factory workers are buying, they are content with the smaller boxes.

INDIANAPOLIS FRIGIDAIRE SALES 214% OF QUOTA

INDIANAPOLIS, Ind.—Exceeding by far the predictions made at the beginning of the month, July Frigidaire sales by the Indianapolis Power and Light Co. were 214 per cent of the month's quota.

F. A. Borghoff, merchandising manager was responsible for this showing.

G. T. BRYANT NAMED SALES MANAGER FOR DEALER

OKLAHOMA CITY—George T. Bryant, former general sales manager for Robert Hassler Mfg. Co., has been appointed sales manager of Harrison Smith Co., electric storage battery manufacturer and Majestic dealer.

Mr. Bryant was connected also with Meyer-Kiser Banking institutions and Homer McKee Advertising agency, both of Indianapolis.

TAKE **both** HANDS AND **push!**

The refrigerator merchant who uses C. I. T. Finance Service protects his working capital against becoming frozen in customer paper; perhaps even more important, he protects himself and his organization against frittering away many hours on instalment detail . . . time that should go to building new business.

We have made our Refrigerator Financing Plans complete—not merely in theory but complete in actual field operation through our unique network of fully-functioning Local Offices throughout the country. In the C. I. T. Office near you, near your customers, you will find trained finance men to check purchaser credits, buy paper, make collections and effectively relieve you of all credit sales burden.

With this type of Finance Service applicable to all standard models and available at low cost, there is no reason why any responsible dealer should be content with less than C. I. T. offers—100% Cooperation . . . the kind that really frees you to take both hands and push your sales program.

C.I.T. CORPORATION
ONE PARK AVENUE, NEW YORK
A Unit of
COMMERCIAL INVESTMENT TRUST CORPORATION
CAPITAL AND SURPLUS OVER $90,000,000

Subsidiary and Affiliated Operating Companies with Head Offices in New York
Chicago ~ San Francisco ~ Toronto ~ London ~ Berlin ~ Brussels ~ Paris
Copenhagen ~ Havana ~ San Juan, P. R. ~ Mexico City ~ Buenos Aires
Sao Paulo ~ Sydney, Australia ~ Offices in more than 160 cities.

THESE C. I. T. LOCAL OFFICES WILL WELCOME YOUR INQUIRY

Abilene ~ Akron ~ Albany ~ Allentown
Altoona ~ Amarillo ~ Asbury Park ~ Asheville
Atlanta ~ Augusta ~ Baltimore ~ Bay Shore
Beckley ~ Binghamton ~ Birmingham
Bloomington ~ Bluefield ~ Boise ~ Boston
Bronx ~ Brooklyn ~ Buffalo ~ Butte
Camden ~ Charleston ~ Charlotte ~ Chicago
Cincinnati ~ Clarksburg ~ Cleveland
Columbia ~ Columbus ~ Dallas ~ Davenport
Dayton ~ Denver ~ Des Moines ~ Detroit
El Paso ~ Erie ~ Fort Wayne ~ Fort Worth
Fresno ~ Glens Falls ~ Grand Rapids
Green Bay ~ Greensboro ~ Greenville
Hagerstown ~ Harrisburg ~ Hartford
Hempstead ~ Hickory ~ Houston ~ Huntington
Indianapolis ~ Jackson ~ Jacksonville
Jamaica ~ Jamestown ~ Jersey City ~ Johnson City ~ Kansas City ~ Kenosha ~ Knoxville
Lansing ~ Lexington ~ Lincoln ~ Little Rock ~ Los Angeles ~ Louisville ~ Manchester ~ Memphis
Miami ~ Milwaukee ~ Minneapolis ~ Minot
Montgomery ~ Montpelier ~ Mt. Vernon
Nashville ~ Newark ~ New Haven ~ New Orleans ~ New York ~ Norfolk ~ Oklahoma City ~ Omaha ~ Orlando ~ Owensboro
Philadelphia ~ Phoenix ~ Pittsburgh ~ Portland, Me. ~ Portland, Ore. ~ Poughkeepsie
Providence ~ Raleigh ~ Reading ~ Reno
Richmond ~ Roanoke ~ Rochester
Sacramento ~ St. George ~ St. Louis ~ Salt Lake City ~ San Antonio ~ San Diego ~ San Francisco ~ San Jose ~ Seattle ~ Sioux Falls
South Bend ~ Spokane ~ Springfield ~ Spring Valley ~ Stockton ~ Syracuse ~ Tampa ~ Toledo
Tucson ~ Tulsa ~ Utica ~ Washington ~ Wheeling
White Plains ~ Wichita ~ Wilkes-Barre
Youngstown.

KULAIR

is making Refrigeration a better investment

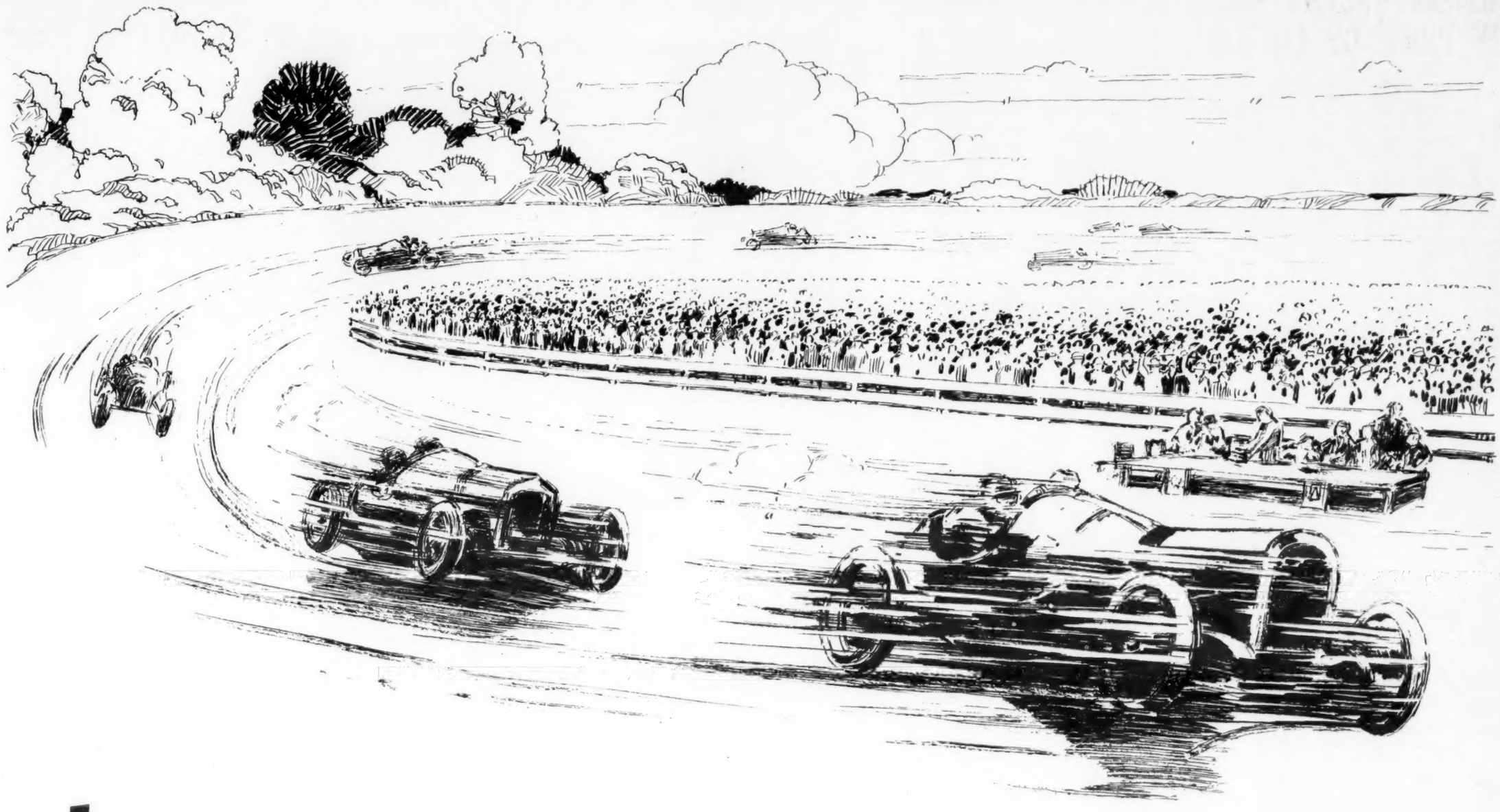
to dry refrigeration distributors right now insist upon living profits on their investment. Wasteful policies of yesterday took its toll of willing capital with little to return. Such methods are not to be countenanced.

That is why KULAIR Electrical Refrigeration Products are employed by successful refrigeration merchandisers—why 95 per cent. of all leading name refrigeration is a KULAIR product.

KULAIR the originator of the direct factory to distributor policy favoring the distribution exclusively over private brands.

Write for Information to

KULAIR CORPORATION . PHILADELPHIA, PA.



It's as easy to keep apace as remain a lap behind

Who's away at the dip of the flag? Who falls behind as the race wears on? What misfortunes of equipment or ability begin to show in heart-breaking laps that are lost one by one?

It is perfection in every part, utmost skill in control, that wins from the gruelling miles. Let any handicap of faulty part or inefficient service enter and the penalty may cost victory.

Refrigerator manufacturers who have been over the bricks know the handicap of mediocre materials. They prevent the penalty of lost laps by insuring perfection at the start. That is why Dry-Zero Pliable Slab insulation is used by manufacturers who have the end of the race in sight.

Not alone because tests by the U. S. Bureau of Standards and national institutes show Dry-Zero to be the most efficient commercial insulant known, but because in years of actual use the superiority of Dry-Zero is obvious.

Refrigerating engineers list these points as qualifying insulation:

THERMAL EFFICIENCY LIFE EFFECTS OF MOISTURE
FACTORY APPLICATION ODOR

Dry-Zero is superior in every respect. It has the highest thermal efficiency, it will outlast the refrigerator; the fibre from which it is made repels moisture so vigorously that it is used for U. S. Navy life belts, its sealing flange and cut-to-size measurements provide instant installation, it can never give off or absorb odors.

Refrigerator manufacturers who are using Dry-Zero are keeping apace through assurance of superior performance for the life of the refrigerator.

DRY-ZERO CORPORATION
Merchandise Mart « Chicago, Illinois
Canadian Office — 465 Parliament St., Toronto

DRY·ZERO
THE MOST EFFICIENT COMMERCIAL INSULANT KNOWN

UTILITY SEEKS RISE IN PRICE OF COTTON

PINE BLUFF, Ark.—An increase in the price of cotton means a sharp increase in the sale of electric refrigerators in the south.

That was the statement issued recently by A. E. Freshman, district representative for the General Electric refrigeration department, following the disclosure that the Arkansas Power & Light Co., utility outlet for O'Bannon Bros., distributors in Little Rock, Ark., has made the first move to bring about an increase in the price of this commodity of which so much is grown south of the Mason-Dixon line.

The utility's part in this program was the placing of an order for between 25,000 and 30,000 large hand bills advertising General Electric refrigerators, and each advertisement printed on cotton cloth instead of the usual paper.

Although it is the popular belief that cotton cloth is much more costly than paper, the present low cost of cotton makes these hand bills cost about half again as much as paper.

The additional cost, however, according to executives of the power company, will be a real investment, which will return unlimited good will and probably will result in other advertisers following suit.

To aid the cause of "King Cotton," the sales promotion division of the General Electric refrigeration department has sent samples of this cotton hand bill to 22 refrigerator distributors throughout the south, and it is expected that many of these distributors will do all they can to aid in the cause.

According to District Representative Freshman, the Arkansas utility has created considerable favorable comments by its action in using cotton for these hand bills, and already, he said, scores of other advertisers who make use of hand bills in large quantities are seriously considering the use of cotton.

Birthday Presents

PHILADELPHIA, Pa.—C. R. Logan, chief supervisor of the refrigeration sales department of the Philadelphia Gas Works, was recently afforded an unusually pleasant surprise on his thirty-fifth birthday.

Members of his sales department were "tipped off" the day before with the request that they send in duplicate copies of the orders they got on the birthday date with "congratulations" written across the face of each.

The result was that a total of 86 orders for Electrolux refrigerators retail and domestic were received by Mr. Logan.

FRIGIDAIRE APPOINTS 9 RETAILERS IN OHIO AREA

CINCINNATI—Nine retail dealers now represent Frigidaire in the Cincinnati metropolitan area according to announcement by officials of Frigidaire Corp. here.

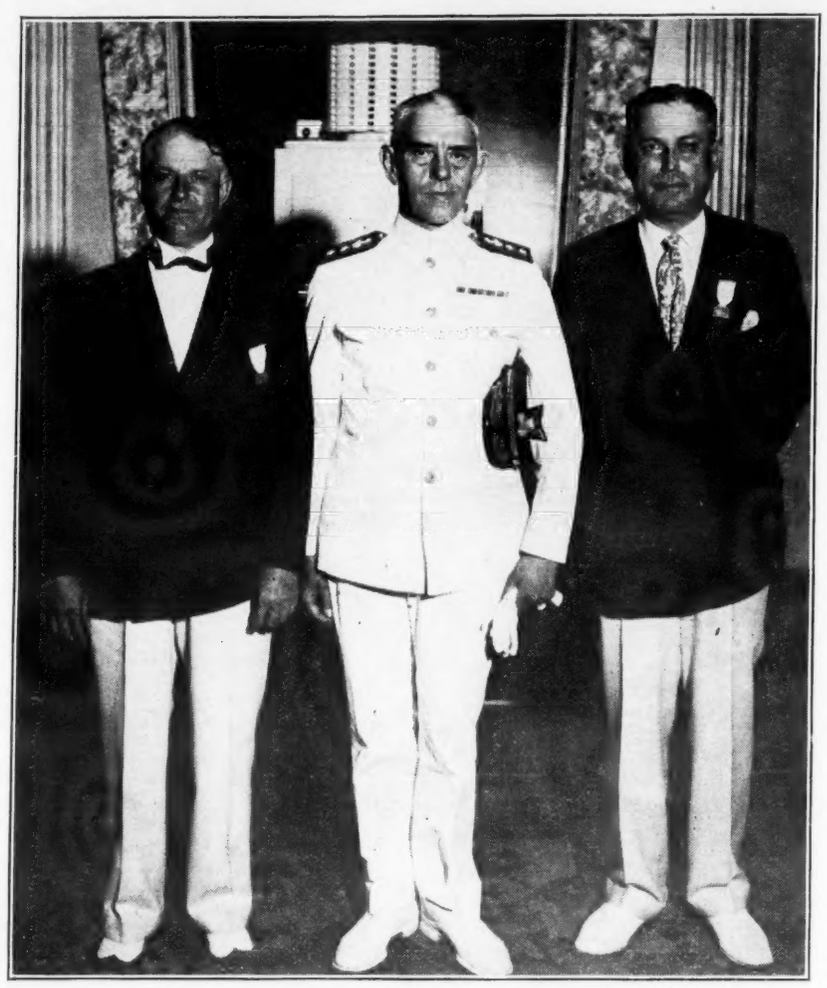
Names of the dealerships follow:

P. L. Barth; Carlson Refrigeration and Radio Co., Lockland; Commercial Refrigeration Co.; Gas and Electric Appliance Co.; North Side Clifton Refrigeration Co.; Norwood Gas and Electric Shop, Norwood; L. L. Redman; C. C. Walter, and the Brown-Twenhofel Co.

ELECTROLUX UNITS PLACED IN APARTMENTS

OWATONNA, Minn.—The Dunbar apartments, were equipped recently with Electrolux refrigerators by the Interstate Power Co. Nine Electrolux models EL-5B and three EL-4 were chosen for the installation.

Celebrities Go To Fair



Gov. Morgan F. Larson of New Jersey, Rear Admiral Frederick C. Bullard, Coast Guard commandant, and Mayor Harry Bachrach of Atlantic City viewed the G. E. exhibit at the American Fair in Atlantic City.

'$100 Awaits You'

MOORES, Pa.—Salesman Kenneth Yarnall of the Delchester Utilities Corp. was astounded and pleased to receive the following post card from one of his prospects:

"Please call at above address at your convenience. Bring a 5 cu. ft. Frigidaire with you. I've got $100 waiting for you."

The sales resulted as indicated.

TOPEKA CONCERN APPOINTED FRIGIDAIRE DEALER

TOPEKA, Kan.—Appointment of Warren M. Crosby Co. as Frigidaire dealer here has been announced by officials of the store.

With the signing of the Frigidaire franchise, the company opened a new electrical appliance department, which, besides handling household and commercial refrigerators also will deal in other types of electrical equipment.

F. L. Koenig is general manager.

PACIFIC GROUP PLANS FOOD KEEPING DRIVE

FRESNO, Calif.—Pacific coast refrigeration sales forces are preparing to launch a food preservation campaign during the fall months in connection with the sale of electric refrigerators, A. Emory Wishon, regional director of the electric refrigeration bureau of the National Electric Light association, announced recently.

Sales of electric refrigerators during the first six months have been above the sales for the first six months in 1930 in the Pacific coast territory.

During the fall months, the leaders are planning to feature electric refrigeration through newspaper advertising, in cooking schools, at city and rural fairs, and through food preservation talks before domestic science classes in colleges and high schools.

In California, total refrigerator sales are estimated to be 20 per cent above the sales for the same period last year while the gain in Arizona is reported to be 15 per cent. Estimates have not been made in Nevada and the Hawaiian Islands.

Northern California reports the best business, a gain of 25 per cent over a year ago. The Pacific Gas & Electric Co., largest utility in this district, sold refrigerators to three per cent of its employes in a campaign and in the Hockenbeamer refrigerator sales campaign, a daily sales quota of 75 is being maintained.

Central California, served mainly by the San Joaquin Light & Power Corp., Southern California Edison Co., and Midland Counties Public Service Corp., has shown a gain of 20 per cent in sales. In an employe campaign, the San Joaquin company sold units to eight per cent of its workers.

The increase in the southern part of the state has not been as great as that in the northern section. A fall campaign similar to the Hockenbeamer drive in the north is being planned. In the San Diego territory, utilities believe that the year's total will be 25 per cent greater than final 1930 figures.

Figures in Arizona show a 15 per cent increase over 1930 while Nevada figures are incomplete. Nevada is served mainly by the Sierra Pacific Power Co.

The Hawaiian Electric is planning to conduct a fall educational drive. Sales are above 1930 according to incomplete figures.

ALLISON OUTLINES 1932 N. E. L. A. BUREAU PLANS

NEW YORK—Plans for the 1932 campaign of the electric refrigeration bureau of the National Electric Light association were outlined by Dr. G. W. Allison, manager of the bureau, at Camp Cooperation XI, a meeting of electrical league managers from July 27 to 31 on Association island.

"So mutually profitable has the enterprise proved to be that all interests are agreed it must be carried on through the three-year course," Dr. Allison said. "Special emphasis will be placed on food savings and food preservation, which will bring into the campaign important food interests themselves."

The speaker pointed out the campaign has built goodwill with the public and within the refrigeration industry.

Incomplete advices to the national bureau showed that the electrical industry has sold more than 600,000 refrigerators in its goal toward 1,000,000. There are 400 refrigeration bureaus and 9,000 communities organized in the present campaign.

J. J. Caddigan, assistant superintendent of promotion department of the Edison Electric Illumination Co., Boston, was elected chairman of the league council for the coming year, succeeding G. W. Weston, chairman of the Electric and Radio association of Kansas City.

R. F. Steffens, Chicago, was elected vice chairman, and O. C. Small of the Society of Electrical Development, secretary.

FRANKELITE GETS COPELAND CLEVELAND AREA

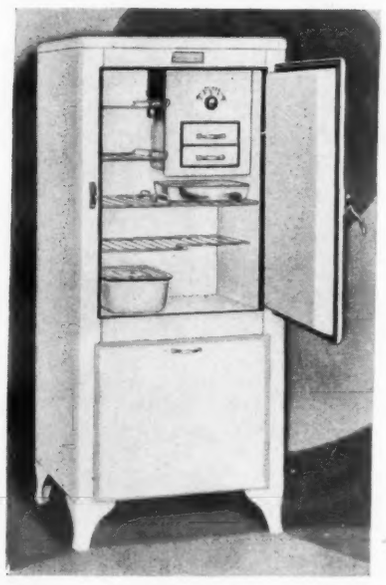
CLEVELAND—The Frankelite Co. of this city has been made Copeland distributor for Cleveland and adjacent territory, W. D. McElhinny, vice president, Copeland Products, Inc., has announced.

The Frankelite Co. is a nationally known manufacturing corporation and has been in business since 1912, with distribution now in all parts of the country.

KELVINATOR CUT-AWAY MODEL DISPLAYED

DETROIT—The chromium plated cut away model of C-10 condensing unit which was displayed in the Kelvinator booth at the N. E. L. A. meeting in Atlantic City has been shown at Newark, N. J., and Baltimore, Md.

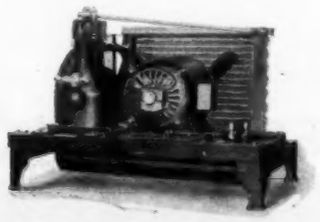
IT PAYS TO SELL
Universal Coolers
—THE COMPLETE LINE



Universal Cabinet No. LP-5. A 5 cu. ft. self contained model.

THE Universal Line is as complete as it is dependable and economical. In addition to a thoroughly modern line of household cabinets that meet the requirements of every type home, the Universal Line contains milk coolers, water coolers, coils of every size and compressors ranging from 1-6 H. P. to 1½ H. P., as well as special units for all commercial purposes. You will like the Universal Line—its outstanding value and recognized ability to "stand up" on the job attract buyers and reduce sales resistance to a minimum.

Write for further particulars.

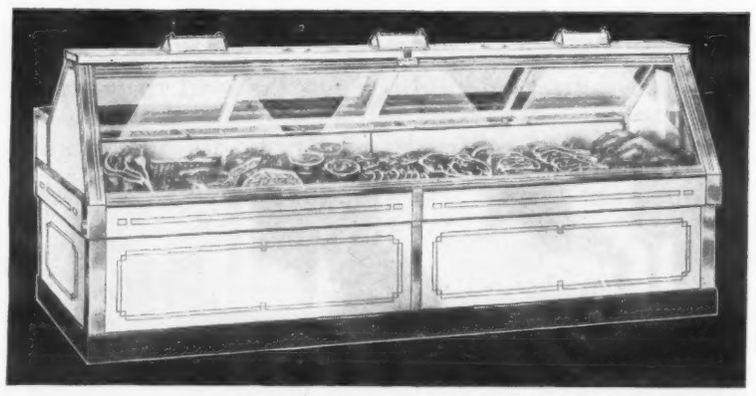


Universal Compressor No. 150. A 1½ H. P. Model.

Universal Cooler Corporation

Detroit, Mich. - - - Windsor, Ontario, Canada

6 Points of . . . Superiority in this NEW McCRAY



The McCray Model No. 107. Available in 6, 8, 10, 12 ft. lengths.

NEW IDEAS, built into this refrigerator display case with the skill developed in McCray's 41 years' experience, give you these important advantages:

(1) better display;
(2) finer appearance;
(3) improved arrangement;
(4) perfect illumination;
(5) easier to work from;
(6) lower operating cost.

Dealers in electric refrigeration should send the coupon now for further information about this and other McCray models.

ALL McCRAY MODELS MAY BE USED WITH MECHANICAL REFRIGERATION OF ANY TYPE

McCRAY REFRIGERATORS

McCRAY REFRIGERATOR SALES CORPORATION
Dept. 66, McCray Court, Kendallville, Indiana
Without obligation please tell me more about [ ] refrigerator display cases; [ ] storage refrigerators; [ ] coolers.
Name
Street
City State

COBWEBS

. . . all over the red-ink bottle!

MORE Kelvinators shipped during the *first* quarter of this fiscal year than last. More Kelvinators shipped during the *second* quarter than in 1930. The record-breaking *third* quarter of 1930 giving way to a greater record for the same months of 1931. And now the *fourth* quarter bids fair to round out the fiscal year with another and even greater gain. It's been a great year for Kelvinator distributors and dealers—and for Kelvinator Corporation. The red ink bottle, overworked in some less fortunate industries, is dusty—and covered with cobwebs.

For the quarter ending June 30th, the net profit amounted to $1,714,406.96, or $1.44 per share, after all charges, except Federal Income Tax. This compares with $1,489,933.02 or $1.26 per share for the same period last year. And this figure does not include earnings of the Corporation's subsidiaries—Refrigeration Discount Corporation and Kelvinator of Canada—which have enjoyed the same increased volume of business.

Kelvinator has no bank loans and the ratio of current assets to current liabilities is 9.8 to 1. Kelvinator has called all its outstanding gold notes at the call price of 105 and on September 30th will be free of all bonded indebtedness other than that represented by building bonds.

It's been a great year for Kelvinator and for Kelvinator distributors and dealers—a new sales record every quarter so far—and, with the $20,000 Kelvinator Comparison Contest now bringing thousands of prospects into the salesrooms, the fourth quarter looks like *another* record breaker.

Kelvinator Corporation, 14245 Plymouth Road, Detroit, Mich.
Kelvinator of Canada, Ltd., London, Ont. Kelvinator Limited, London, England

Kelvinator

(360)

TEXAS UTILITY FILES REPLY TO LAW SUIT

SAN ANTONIO, Tex.—Answer to the suit recently filed by Attorney-General James V. Allred for the forfeiture of the charter of the San Antonio Public Service Co. has been filed.

In the bill, the state charged that the utility is selling gas and electrical equipment and supplies and performing other unauthorized functions. The state also is seeking a temporary injunction.

"The said petition shows on its face that this suit is brought without warrant or authority of law," the answer states, "in that it is brought in behalf of and for the benefit of a special class of people—to wit, certain gas and electric appliance dealers—in order to lessen and destroy the competition in their business, and shows on its face that to deprive this defendant of the right to sell and furnish gas or electric appliances as incidental to and in furtherance of the sale of gas or electricity is not for the public interest."

The appliances are not sold "upon a larger scale of profit," as alleged, the answer states, and the company's predecessors "have at various times during the past 25 years sold such appliances."

Nor has the company more than $500,000 invested in gas and electric appliances, the correct figure being said to be approximately $35,000 in stock and outstanding accounts from customers of about $100,000. The company further claims that without the service which it provides many small communities would be without needed appliances.

QUIET MAY OIL BURNER SALES ABOVE '30 MARK

BALTIMORE, Md.—Sales of Quiet May oil burners during the first six months of 1931 showed an increase of 20 per cent over the same period in 1930.

Refrigerated Foods For Circus Goers

Westinghouse refrigerators formed the major part of the electrically equipped kitchen shown at Circus Mart show.

* * *

Double Play

LOUISVILLE, Ky.—Salesman B. K. Brantley of the A. H. Thompson Co., Frigidaire distributors, believes in going prepared at all times.

A star player for one of the teams in a local baseball league, Brantley carries an order blank in his uniform pocket.

Recently he took time out to sell a Frigidaire W-5 model to the manager of the club when the latter complained that his drinks were not cold enough.

DISPLAY OF APPLIANCES FEATURES CHICAGO SHOW

CHICAGO—An electrically equipped kitchen formed the central part of the Shoreland Hotel booth at the Circus Mart show in the Coliseum.

The Westinghouse refrigerators were supplied by Frank H. Johnson-Son-Crowen, Inc., and the appliances were furnished by Westinghouse Electrical and Mfg. Co.

During the show, the Shoreland Hotel staff served luncheons and teas to hundreds of visitors.

Nebraska Distributor of Norge Names Dealers

LINCOLN, Nebr.—W. M. Dutton and Sons Co., Hastings, Nebr., Norge distributor for Nebraska, has appointed the following dealers:

Nebraska—Ainsworth, Corbitt Motor Co.; Alexandria, Charles Laune; Alma, Guy Baker & Co.; Almena, George H. Eckhardt; Arapahoe, A. Benjamin Co.; Atkinson, John's Electrical Shop; Aurora, Rence Cash Hardware; Axtell, C. L. Carison; Bartley, Teter Drug Co.; Beatrice, Martin Fanders; Benkelman, Paul Jones; Bennet, McGillivrae Auto Co.; Blue Hill, George Corner; Broken Bow, Bates and Brooks; Burwell, Mitchell Bros.; Cambridge, Minnion Hardware Co.

Clarks, O. A. Bittinger; Clay Center, Roger H. Hertel; Clearwater, Contois Bros.; Cortland, G. B. Scott; Creston, Palmateer Hardware, Grocery; Crete, Central Credit Co.; Curtis, Elson Motor Co.; Culbertson, Hill and Hein; Danbury, Lord Hardware Co.; Davenport, G. A. Stickles; Dawson, M. V. Riley; DeWitt, D. F. Venrick Furniture Co.; Dorchester, Central Credit Co.

Edgar, C. H. Merrill; Edison, C. C. Munday Cash Store; Elba, James Zavitka; Elwood, G. L. Seberg; Eustis, A. C. Schilpp and Co.; Ewing, Spittler Bros.; Fairfield, M. L. Jones; Fairmont, Fare Motor Co.; Falls City, H. J. Prichard and Son; Franklin, R. E. Henderson and Sons; Funk, Burman and Anderson; Glenvil, August Heye; Gothenberg, H. R. Snider; Grafton, John Morrissey; Grand Island, Darling Furniture Co.

Grant, C. G. Petty; Greeley, C. H. Larson; Gresham, E. C. Brittell; Guide Rock, Guide Rock Hardware Co.; Hamlet, C. R. Mahoffey; Hampton, Eberhard and Son; Hastings, Binderup Hardware Co.; Hay Springs, Hagedorn and Johansen; Heartwell, Heartwell Mercantile Co.; Hildreth, A. F. Schwartz; Holbrook, Henry and Reaser; Holstein, F. C. Hageman; Humbolt, Kanel Electric; Imperial, E. M. Rouze; Indianola, Allen & Co.; Keen, Keen Store; Lawrence, R. B. McIllee; Lincoln, Robertson Furniture Co.

Lushton, Harrigton Garage; Madrid, Bullock and Bullock; Marquette, Marquette Mercantile Co.; McCook, Hill and Hein; Merna, Hurley Manning Co.; Milford, J. G. Hansen Hardware; Murdock, A. J. Tool; Nebraska City, Eglaser Bros.; Neligh, S. F. Gilman Mill Co.; Nelson, Adams Tire and Radio Shop; North Platte, J. S. Davis; Oakdale, Aug. Carstensen; Omaha, McCawley and Targy; Omaha, Glen A. Crancer; Ong, N. Edberg; Orleans, A. W. Morris Furniture Store.

Osceola, Hotchkiss and Wells; Oxford, Pettygrove Hardware; Palisade, Est. H. Blum; Papillion, D. F. McDonald; Peru, W. W. Barnes Pharmacy; Pilger, Otto T. Olk; Pleasanton, Hunter Bros.; Red Cloud, Malone and Gellatly; Sargent, G. I. Gardner; Seward, Paul Herpolshiemer; Shelby, Charles Hastert and Son; Shickley, Carl Wennersten; St. Paul, Steen Tire and Battery Co.

Staplehurst, E. R. Doll; Stamford, Leroy Sheer; Stanton, J. C. Nitz; Stapleton, George Viehmeyer; Steinauer, Steinauer Milling Co.; Stockham, Grosshans Bros.; Stratton, G. O. Rains; Stromsburg, Ericson and Anderson; Superior, Johs A. Mullet; Sutton, Garney's Hardware; Syracuse, E. F. Tonsing.

Talmage, E. F. Tonsing; Tobias, H. Horney; Uehling, Uehling Hardware Co.; Utica, E. J. Bercuter; Venango, Cash Hardware Co.; Verdon, E. C. Frauenfelder; Waco, Farmer Grocery; Wauneta, Grimm Bros.; West Point, C. L. Miller Hardware and Radio; Wilber, Central Credit Co.; Wilsonville, Anderson Bros.; York, Rystrom Co.

STATE RADIO CO. NAMED STARR FREEZE JOBBER

INDIANAPOLIS, Ind.—State Radio Co. has been appointed jobber for Starr Freeze electric refrigerators.

FOLLOW-UP SYSTEM USED BY DISTRIBUTOR

By M. Ellsworth Stone

SEATTLE, Wash.—The Gordon Prentice Co., Inc., one of the largest electric refrigerator distributors in the west, has applied proven "piano-selling" tactics to its business.

In the headquarters city—Seattle—a staff of over 30 General Electric salesmen work out of the Gordon Prentice retail store and this salesman group is adequately guided by a system geared to "sell the prospect today."

Most sales managers would not try to get along without a prospect card and the colored tab indicating the date for a follow-up call.

The Gordon Prentice follow-up system goes further. The prospect card in use here is composed of two parts—a master card and a work card. The master card does not leave the file, while the work card does, when the salesman is in the process of follow-up on the prospect.

The work card is printed in pink index, so that its presence or absence is readily indicated through a hole punched in the white master card. A close-up of any salesman's follow-up activity may be gathered at any time, by noting the word-cards outstanding from his prospect file.

Such a close-up is definitely indicative because of a three-day limit which is placed on the return of a work-card.

Further, the supervisor has the record of the work-card on his daily "working sheet" so that there is a concise record of what work-cards have been given to a salesman on a given day, and when they are to be returned with notations as to the result of the follow-up.

Work-card Used

For example, when the clerk notes that Mrs. Joe Brown is to be followed up on Aug. 15, the work-card portion of the prospect card made out in the name of Mrs. Joe Brown is given to the salesman for due follow-up.

It is also listed on the supervisor's working sheet, and if the work-card is not returned with a satisfactory notation within three days' time, the supervisor vs. salesman follow-up occurs.

This combined effort of supervisor and salesman results in prompt follow-up being taken without any if's and but's.

There is a double-check on follow-up, for the salesman's daily report tabulates this activity, as well as what he has done in the way of uncovering new prospects, and his sales. The sales to followed-up prospects and new prospects are segregated. The double-rule separates the reports on the two types of prospects.

Still another report of the salesman's activity is gathered on the sales manager's daily report, covering the work of all the staff members. This is a progressive report, giving a day by day, easy-to-get-at picture of the day's business, as a whole, and as individuals.

This is the information covered in this report: calls today; interviews today; new prospects today; sales today; approvals today; approvals closed today; approvals still out; sales this month; approvals this month; approvals closed this month.

Follow-up effort is further regulated by a Gordon Prentice system of making sure that the salesman does not have more prospects than is fair, or that he can successfully handle. That is, this company has three different types of prospect files—a protected file, a registered file, an open file.

120 In Protected File

A salesman is permitted to have no more than 120 names in his protected file, as that has been found to be a maximum number which any one man can productively work on.

However, he may have other prospects listed in a registered file, but if a registered file prospect is sold by another salesman, the registrant's share of the commission is 25 per cent, whereas he would receive the full commission if a prospect listed in his protected file were sold by another, following a customary practice.

The prospects in a salesman's protected file must enjoy a 30-day "turnover." This is a protective clause in the company's sales managerial plan, for it guards against a salesman listing many names for protection—and then working on a few.

With this system in practice, it works out that the men take care to protect prospects who are "hot"—and gear follow-up accordingly. Thus, a timely prospect is not lost because she is one among too many in a salesman's "protected listing."

The open file tabulates prospects of future "liveness."

All of this regulation anent follow-up has accomplished important results. The primary result is that the salesmen only require about four interviews before they can close. This ratio is below the average, so that the system has definitely proven itself as a result-winner.

A direct mail campaign bridging the space between interviews, constitutes another reason why the prospect unearthed a month ago should receive even more regard than the one unearthed today.

No Vacation for NORGE Dealers

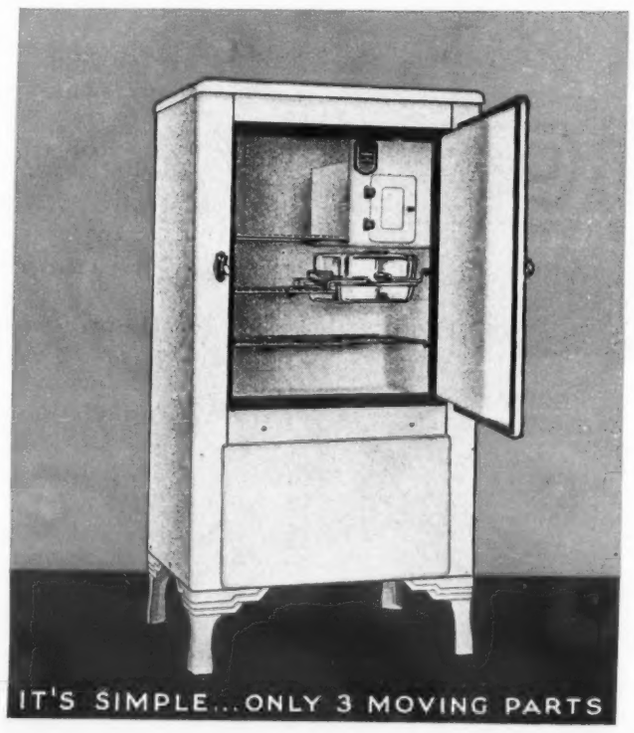
Norge, the electric refrigerator with the Rollator, gives the kind of performance that users want the year 'round.

A constantly increasing share of business is coming to Norge and present dealers see no indication of a seasonal let down comparable to that in other lines of business.

Norge is a short-line.... a package merchandise line.... a service free line....a quick turnover line. And now it's proving itself a No Vacation line.

THE ROLLATOR

You may be located where there is opportunity for another profitable Norge dealership. Find out. The coupon will bring full details.



Norge Corporation is a division of Borg-Warner Corporation, one of the world's largest makers of automotive parts, including free wheeling.

NORGE CORPORATION, Division of Borg-Warner
658 EAST WOODBRIDGE ST., DETROIT, MICH.

IN CANADA
NORGE CORPORATION OF CANADA, LTD.
235 CARLAW AVE., ... TORONTO, ONT., CANADA

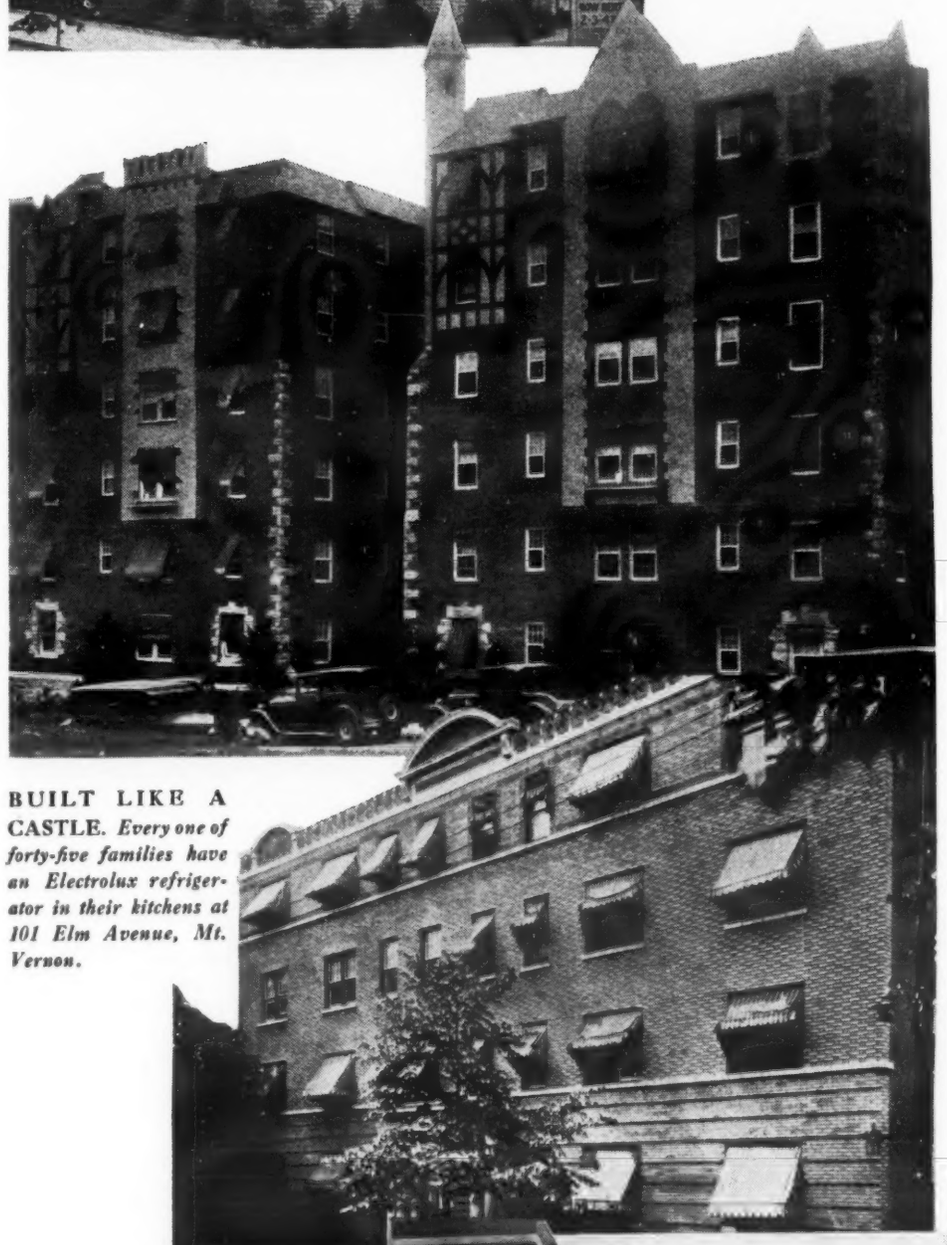
Norge Corporation,
658 E. Woodbridge St., Detroit, Mich.
Gentlemen:
Please send me Norge Dealership information.
Name .....
Address .....
City ..... State .....

NORGE
WITH ROLLATOR

THE TINY Flame that Freezes Captures WESTCHESTER!

Electrolux salesmen invade Yonkers, Eastchester and Mt. Vernon . . . 3000 gas refrigerators already installed

THE BIGGEST IN THE COUNTY . . . *The Wingrey, Sound Hill Avenue, Yonkers, has one hundred Electrolux refrigerators. Mr. Wolf, owner.*



BUILT LIKE A CASTLE. *Every one of forty-five families have an Electrolux refrigerator in their kitchens at 101 Elm Avenue, Mt. Vernon.*

ANOTHER YONKERS APARTMENT *goes Electrolux! Mr. Bronson, owner, put twenty Electrolux refrigerators in each of twenty individual kitchens.*

FORTY-FIVE APARTMENTS —FORTY-FIVE ELECTROLUX *in Mr. Oliver Scott's apartment building at 48 Caryl Avenue, Yonkers.*

IF you worked in New York, and business went well, you might very likely move to Westchester—that delightful suburban county just outside the city. Westchester is for people who can afford a bit of extra luxury. Apartment owners find it profitable to offer their tenants the best in everything. It is only natural they should select Electrolux when it comes to refrigerators.

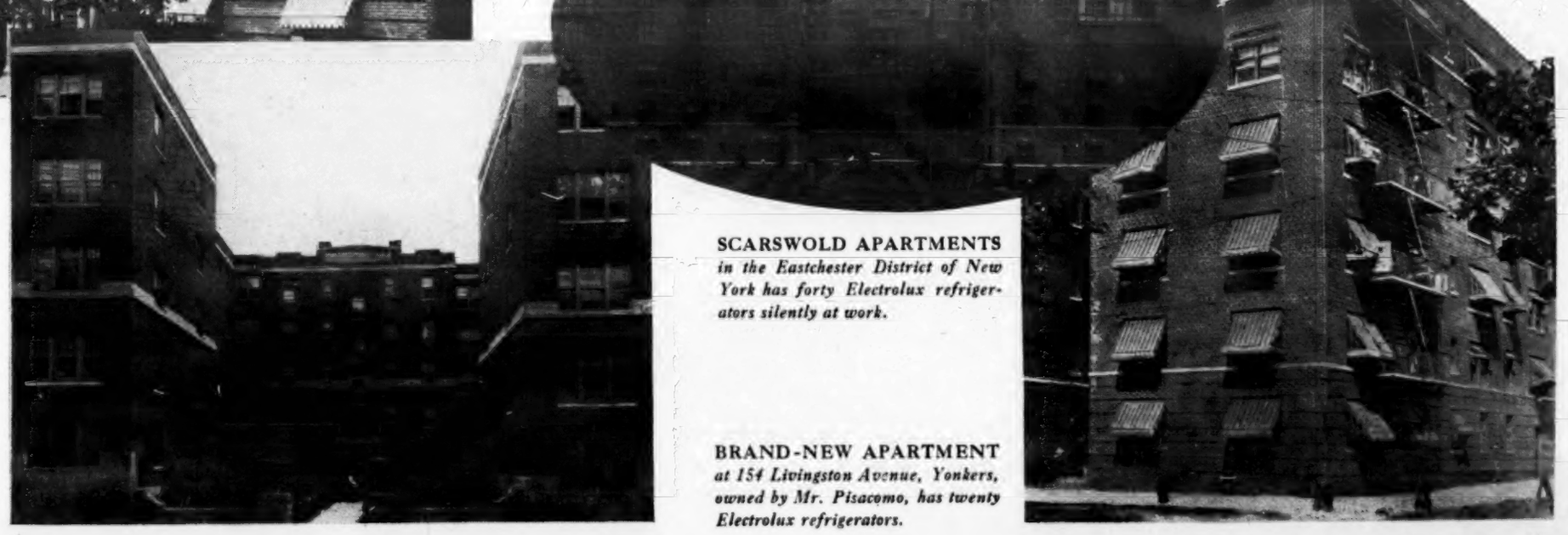
Not only in Westchester do "the" people prefer Electrolux. Wherever you find good living, you'll find Electrolux. Here's an $85,000 home in Somerville, Mass., that has just installed 3 Electrolux refrigerators. There's London Terrace, New York's super-apartment, with 1669 Electrolux. And Suffolk and Norfolk Manor, Philadelphia's largest, offers gas refrigeration.

While tenants and owners of houses like these would be willing to pay a bit extra for Electrolux silence and reliability, gas refrigeration is really the most economical. Under such conditions it would be surprising if Electrolux did not sell. Electrolux Refrigerator Sales, Inc., Evansville, Ind.

A tiny gas flame takes the place of all moving parts

ELECTROLUX

THE *Gas* REFRIGERATOR



SCARSWOLD APARTMENTS *in the Eastchester District of New York has forty Electrolux refrigerators silently at work.*

BRAND-NEW APARTMENT *at 154 Livingston Avenue, Yonkers, owned by Mr. Pisacomo, has twenty Electrolux refrigerators.*

MERCHANDISING SECTION ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

Published Every Two Weeks by

BUSINESS NEWS PUBLISHING CO.

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IMPORTANT NOTICE: Beginning Sept. 9, 1931, Electric Refrigeration News will be issued every week. The Refrigerated Food Section will appear as a separate publication, Refrigerated Food News, on September 1. Subscription rates as given above will not include Refrigerated Food News after September 30, 1931.

F. M. COCKRELL, *Publisher*

GEORGE F. TAUBENECK, *Editor*
JOHN DRITTLER, *Managing Editor*
JOHN T. SCHAEFER, *Engineering Editor*
JOHN R. ADAMS, *Assistant Editor*
FREDERICK W. BRACK, *Advertising Manager*
GEORGE N. CONGDON, *Business Manager*
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A New Sales Story

PRIDE of possession is still one of the prime moving factors in the sale of electric refrigerators, we are told by sales executives whose ears are close to the ground of public response. While most purchasers do not emulate the Oklahoma Indians and Japanese families who have electric refrigerators installed in their parlors, it is indeed true that many American housewives are buying electric refrigerators because it is "the thing to do" today. The appearance of a new electric refrigerator in a neighborhood often is the forerunner of a dozen more installations following in short order.

Although the salesman who is perspiring away out on the firing line, battling against the inertia of people who have lost the habit of spending freely and whose desires for better living have atrophied, will deny vigorously—and with justice—that his job is easy, the fact remains that sales presentations are still in elemental stages.

Thus far, it hasn't been necessary to develop more weighty sales stories. Electric refrigeration obviously has been so much better than ice refrigeration that salesmen haven't had to learn the language of food, or study the nuances of the service offered by the product he is selling.

Adequate Refrigeration

Pride of possession has done well enough for the initial sale to a prospect. But the next step, that of selling *adequate* refrigeration, will call for a knowledge of foods.

Families trying to stuff all their meal supplies into a five cubic foot box will be taught proper temperatures for various classes of food, and will be sold larger and more adequate refrigerators. Food retailers who have display cases for meats will be shown how to refrigerate and display fruits, vegetables, and confections, will be told the possibilities of special cases for certain foods, and will be persuaded to buy additional equipment.

To sell the discriminating prospects of the near future, it will be necessary to know a good deal about the correct temperatures for keeping milk, eggs, butter; about the best ways of keeping vegetables fresh, and of preserving the flavor of meats.

The successful salesman will understand some of the idiosyncracies of fruits, will know just what should be done with each variety of fruit and vegetable and with the products of different localities. He will be able to tell the grocer and the housewife how to keep, handle, and serve these foods to best advantage.

Rise of Home Service

As an indication of the success which may be had by emphasizing foods in the sales story, it might be noted that one of the significant trends of recent months has been the rapid rise of home service departments.

For a long time manufacturers had difficulty in persuading any considerable number of dealers or distributors to set up home economics divisions. The contribution of women who talked about foods all the time, rather than refrigerants, temperature controls, finish, and capacity, seemed of dubious value in the early days when the mechanism itself was the all-important topic.

Slowly it began to dawn upon distributing organizations, however, that these home economists could get the attention and hold the interest of housewives because they talked the latter's language. And sales resulted—directly traceable to the activities of the home service departments. Nowadays few well organized sales outlets feel that they have an adequate staff unless a competent home service director is part of the establishment.

Manufacturers of commercial refrigerating equipment say that it takes a trained specialty salesman—one who has sold store equipment, such as meat cutters, scales, grinders, etc.—to merchandise their products. The obvious advantage of this type of salesman is that he can talk the storekeeper's language—the language of food.

Foreseeing the time when refrigeration sales presentations must center about foods, ELECTRIC REFRIGERATION NEWS inaugurated its *Refrigerated Food Section* a year ago last spring. At considerable additional expense, this section has been maintained regularly to collect and disseminate all the available information on refrigerated foods.

Valuable Service

In REFRIGERATED FOOD NEWS, the monthly publication into which the *Refrigerated Food Section* of ELECTRIC REFRIGERATION NEWS has grown, will appear the best answers to the questions which forward-looking men in the industry are asking: "Where can we learn about the refrigeration needs of the butcher, of the grocer, of the delicatessen, of the restaurant, of the hotel? Where can we find out the exact temperatures at which fruits, vegetables, and meats should be kept? What has been learned about the proper handling and placement of foods in the household refrigerator?"

By treating editorially the problems of the producers, purveyors, and consumers of food, and presenting the news of developments in the production, packaging, transportation, distribution, storage, and display of refrigerated foods, the new paper will give the refrigeration industry a close-up picture of its best customers. It will enable the men who are *selling* electric refrigeration to talk in the same tongue as those who are *buying* it.

Such rapid strides is electric refrigeration making, and so well has the industry done the job of building public confidence, that the time is far away when electric refrigeration *per se* will be accepted as fundamentally essential. But the job will still remain of selling the adequate and intelligent *use* of refrigeration in all its various applications.

Salesmen hunting material for their new stories—presentations which will have *food* for their theme—will find what they are looking for in REFRIGERATED FOOD NEWS, a paper designed to educate the refrigeration industry in the realm of foods, and the food industry in the field of refrigeration.

GLEANINGS
FROM RECENT PERIODICALS

Everybody has or hopes to have automatic refrigeration in the home.

Even now there are 3,000,000 electric refrigerators in homes in the United States. This year's goal was set at 1,000,000 and during the first six months of the year the quota was greatly exceeded.

It will surprise many to learn that this "infant" industry is observing its fifteenth birthday anniversary. Of course much of this time represents extensive laboratory research in which millions of dollars were spent to produce the practically perfect refrigerating systems of today.

Twenty million American homes are wired for electricity and every one of these offers a market for electrical refrigeration. Automatic refrigeration has become an accepted part of a new house. The public needs no longer be told of its benefits. The public knows and demands this service.

Automatic refrigeration is a tremendous new contribution to industrial prosperity. Its use commercially is well known. It cools theatres and offices and soon will be used in homes to regulate temperature. "Turn on the cold" will be as common an expression as "turn on the heat."

Time was when automatic refrigeration was a luxury of the rich. Today the person of moderate means buys at a lower price almost infinitely better equipment. We are glad to say kind words about an industry which is contributing jobs and revenue to the American public. Whenever inventive genius adds to the comfort and prosperity of a people, it should be encouraged.—*Boston Traveler.*

On Our Bookshelves

"RETAILING TOMORROW"

Author: John Guernsey. Publisher: Textile Publishing Co., New York City. Publication date: 1929. Pages: 213, with appendix. Price: $5.00.

When he wrote this book, John Guernsey pushed both feet down through the muck of lukewarm generalities, then stood on a bed of hardpan and threw one disconcerting fact after another into the very faces of self-pitying independent merchants.

There is little in the work to bring any great amount of satisfaction or pleasure to this type of merchant, but a great deal for him to profit by. For the author, seemingly free from prejudice, yet with an amazing amount of authoritative information and as much frankness, tells the unprogressive retailer why his business is on the skids, and what he can do about it, if he will.

At the outset, store executives are told that it is high time for them to get into problems instead of looking at them. Less golf in store hours, less aloofness, less superficiality, less prejudice, less hunch. They are told to become acquainted with their employes, to check up personally on store operations, to meet and mingle with typical customers—those persons who can make or break a retail business.

"When a store gets through changing with the times, that store is through, finished, washed up." So says Mr. Guernsey. Then he outlines the several forms of competition confronting the independent retail merchant, discusses the history of the chain store and explains its organization, and outlines other major types of store groups.

We should say that the heavy firing begins with chapter 15, and from then on there is advice, plenty of it, predictions as to the outcome of retailing in the future, and plain talk backed by scores of illustrative points to prove the author's points.

Says the book, "Poor earning power points to poor top management.

"The store tomorrow, to continue independent, must have a distinct personality and a standard of perfection in merchandise and service which sets it aside from the field which the chains can fill so much more profitably—the field in which price and utility are the primary appeal.

"The independent retailer has five alternatives for tomorrow. He may operate that type of store for which there is room in each community, yet into which no chain will expand. He may put himself in an ownership group. He may become one of a voluntary association of individual owners. He may sell out to a chain organization. Or he may sell out."

The statement is made that the independent can operate as cheaply as a chain unit, and sell just as cheaply, but to do so, he must buy efficiently, or make up for it with his profit margin. This applies only to that merchant who cares not for fashion appeal, and operates impersonally. But more thought must be given to fashion-rightness from now on, says the author, for the public demands it.

Further, the book says that there is a place for independents that chains will never fill, and that the chain is nearing the evening of the heyday of its development. Tomorrow for the chain will be a day of fierce inter-chain competition.

The typical department store of tomorrow will be organized in three divisions, Mr. Guernsey predicts—a basement store with restricted service, carrying chain merchandise sold on price appeal; merchandise upstairs sold primarily on price appeal but with full service; and habit merchandise and fashion merchandise of discriminating appeal, requiring a highly expert merchandising job, and a sophisticated promotional and selling job.

Most stores of the future, the book continues, will be in one of three classes: units of a chain, stores of an ownership group, or independents associated in groups of similar stores with mutually-owned central service organizations. But he repeats that some stores will remain independent and profitably so, because of their good service, management, location, and clientele.

As a last warning, or bit of advice—it defies classification—there appears this sentence: "Consistency is the secret of profitable operation tomorrow, and the secret of consistency is experienced, forceful, calm management."

Readin' and 'Ritin', 'Rithmetic and Refrigeration

NORFOLK, Va.—Children of the first grade in the James Barron Hope elementary school, built a Frigidaire for themselves recently as part of their program of health studies.

Having spent some time learning the nutriment value of various items of foods, the children, when they came to the subject of food preservation, set out to build a model electric refrigerator for their classroom.

They obtained an egg crate which, with a coat of white paint, soon was transformed into a very makeshift cabinet.

Vegetables, milk bottles, fruits, and butter were made of clay and painted in realistic colors with water colors.

C. I. T. EARNINGS EXCEED DIVIDEND REQUIREMENTS

NEW YORK—Earnings substantially in excess of dividend requirements for the first six months of 1931 are reported by the Commercial Investment Trust Corp., which shows consolidated net profits for the period, available for dividends, of $3,863,814.

The six months' profits compare with $3,850,996 for the last half of 1930 and $4,467,797 for the first six months of 1930, without including, for any period, dividends received on investments of the corporation in its own stock or any gain in the purchase for retirement or otherwise of any of the corporation's own securities.

After deducting dividends on the first preferred stock and on the serial preference stock, the profits for the first half of this year were equivalent to $1.26 per share.

While the volume of the corporation's business during the first half of the year was smaller than during the corresponding period last year, it was greater than in the last six months of 1930.

ONE OUT OF 7 EMPLOYES OWN ELECTROLUX UNIT

PHILADELPHIA, Pa.—According to figures recently compiled by the Philadelphia Gas Works Co., one out of every seven employes of the company which numbers approximately 3,400 people, has purchased an Electrolux refrigerator.

Letters From Readers

He Seconds Our Motion

Detroit, Mich.
July 25, 1931.

Editor:

Your editorial in the Refrigerated Food Section July 1st on "Food Equipment Retailing" strikes in us a responsive cord.

Your conclusions, in our opinion, are sound and reasonable. An organization trained in selling electric refrigeration has all the necessary qualifications for successfully selling similar equipment such as electric ranges.

In the history of almost every business, industry or agriculture, ultimate success is generally dependent upon concentration and diversification.

Believing in this principle, we have just recently taken on the responsibility for organizing abroad the distribution of Electrochef—the modern electric range, in conjunction with our representation of Copeland—dependable electric refrigerators. We have found both lines go well together.

We should like to see you emphasize again in your editorial columns the advisability of electric refrigerator distributors marketing similar appliances.

Very truly yours,
J. C. MATHEWS,
General Manager,
H. M. Robins Co.,
Export Factor.

More News About:

Majestic electric refrigeration—Ignition Service & Supply Co., Albany, N. Y.

Where any new non-toxic refrigerants are used in commercial installations of the smaller style—Walter Becker, Houston, Texas.

Illustrations, diagrams, and mechanical and technical descriptions of household refrigerating units—Central Chemical Co., Manila, P. I.

Photographs of recent actual intricate installations—E. P. Goodison, Philadelphia, Pa.

Electric water bottle coolers—L. L. Parrish, Detroit, Mich.

Kind Words Dept.

No suggestions. Mighty fine as is—Harry V. Higley, Marinette, Wis.

Everything O. K.—R. C. Reese, Boston, Mass.

O. K. as is—Otto M. Wenk, Chicago, Ill.

Suits me fine the way it is—Roscoe H. Rogers, New Rochelle, N. Y.

500 UNITS ARE SOLD; POLITICAL RACE ENDS

DETROIT—When figures were finally tabulated on the six-week dealer contest sponsored by Caswell-Stull, Inc., General Electric distributor for Michigan, it was found that 500 refrigerators had been sold, and Lou Gruesel, Battle Creek dealer, stood elected as first governor of the Caswell-Stull Dealer Club, with 60 sales to his credit.

The contest, opening June 1, was organized along the lines of a gubernatorial campaign, each of the 10 election aspirants, nominated by a committee of distributor executives and district representatives, having his own camp, complete with ward bosses (neighboring dealers) and racketeers (salesmen).

Harry Schaefer of Ypsilanti received the office of lieutenant-governor by virtue of the 45 sales made by his organization, and Ro Swick, Jackson dealer with a score of 40 sales, came in third in the political race to claim the office of secretary of state.

Thirty-six sales put Bert Fletcher of Ann Arbor in fourth place, and Charles Brown of Kalamazoo finished fifth with 28 sales made by his camp. By closing the campaign in tenth place, Frank Bloom of Alpena had settled upon him the title of Custodian of the Courthouse Cuspidors.

Leading all racketeers in the contest was Ben Bristol of the Central Electric Co., Battle Creek, who made 18 sales during the six weeks. His co-worker, William Tuttle, was second with a score of 17 sales. Salesman Dryer of the Calkuss-Fletcher Drug Co. at Ann Arbor, having 12 sales, closed in third place in racketeer standings.

Votes were given for both purchases from the distributor and for actual sales from the dealers' stock. In the Alpena territory, each purchase and sale counted for 100 votes. Dearborn, Saginaw, Ypsilanti and Bay City dealers received 75 votes for each purchase and sale.

Dealers in Ann Arbor, Muskegon, Kalamazoo, Battle Creek and Jackson received 50 votes for each of their purchases and sales. Each contribution from any camp to the "Scandal Sheet," official campaign publication issued by Caswell-Stull, Inc., entitled each nominee to an additional 200 votes on the score.

To celebrate the victories, distributor executives held a fish fry and outing at Gull Lake on July 24, for all leaders in the contest. Mr. Gruesel, governor, received a large silver loving cup as a reward for his labors.

Clarence Heyser, Gruesel sales and camp manager, was presented with a desk set. Salesmen Bristol, Tuttle and Dryer received a wrist watch, brief case, and pen-and-pencil set, respectively.

The three ward bosses under Governor Gruesel—Otto Niggli of Sturgis; Walter Abrams of Grand Ledge, and Walter Reed of Lake Odessa were all presented with engraved binders.

NAME FAIRBANKS-MORSE COPELAND DISTRIBUTOR

DETROIT—The Canadian Fairbanks-Morse Co. has been appointed distributor for Copeland electric refrigerators in the provinces of Quebec, Manitoba and Saskatchewan, according to an announcement made by W. D. Loomis, associate manager of the H. M. Robins Co., Detroit exporters of Copeland equipment.

A dealer organization has already been put under way by the executive group composed of F. T. Page, who is in control of the electrical refrigeration branch; S. Scott, city sales engineer; M. L. Genest, F. E. Chipman, and F. C. Ferris, who will cover the country territory in Manitoba; W. M. Hills, who is in charge of the Regina office, and J. L. Walker, commanding the Saskatoon office.

Plans are being made for the distribution of the refrigerators through the branch offices and warehouses of the company in Montreal, Quebec, Winnipeg, Manitoba, Regina, Saskatoon, and Ottawa. The Copeland line will also take its place in the 800-page catalog which the company publishes.

KEILLY WINS FIRST PLACE IN 50-50 CONTEST

NEWARK, N. J.—Andy Keilly, salesman for Heat & Cold Equipment Co., Paterson, won first prize in the Phil Harrison 50-50 drive with 75 sales, representing net billings of $20,067.

Second place was won by Kenneth Rendall, New Brunswick, who made 57 sales with net billings of $14,180 while H. C. Fream of A. Hasbrouck, Jr., Hackensack, took third place with 45 sales and net billings of $12,600.

OHIO PUBLIC SERVICE CO. SELLS 258 UNITS

CLEVELAND, Ohio.—Two hundred and fifty-eight electric refrigerators were sold in the new business campaign of the Ohio Public Service Co. from June 2 to July 10. The sales amounted to 78.5 per cent of the quota.

Mansfield division led in the sales, fulfilling 122.2 per cent of the quota while Lorain was second, selling 111.1 per cent of the quota.

Lower Conductivity

Lighter Density

TEMLOK takes two steps Forward.. in improved insulation

1. Lower conductivity; 2. Lower density . . . but without increase in cost for Armstrong's new and better fibreboard insulation

NOW Armstrong's Temlok, the new, low-cost fibreboard insulation for domestic refrigerators, offers manufacturers even greater value—lower conductivity, and lighter density. Improved Temlok Refrigerator Insulation is available without increase in cost.

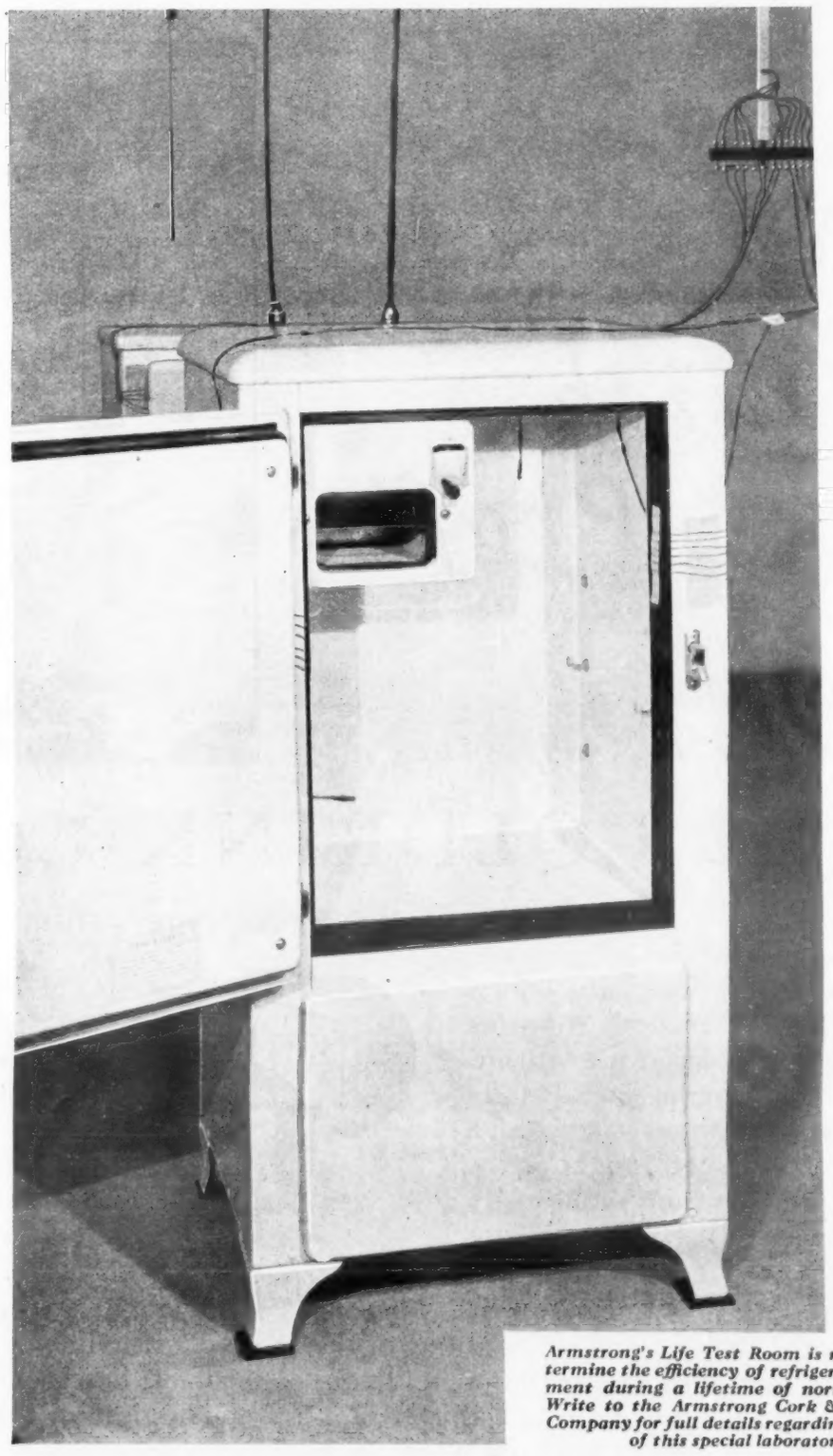
These two important advantages are added to Temlok's other extra qualities. Temlok permanently resists moisture—retains its insulating efficiency during long years of actual service.

Temlok is fabricated from the heartwood of southern pine. The heartwood fibres, impregnated with resin by Nature, are highly moisture-resistant. Fabricated into Temlok Refrigerator Insulation, these fibres retain their ability to successfully resist the attacks of moisture. Thus Temlok is permanently efficient.

Temlok is custom-made board—accurately cut to size in any thickness for quick, economical installation. It is rigid and structurally strong, sterile, and odorless. Easily handled. And manufactured by Armstrong. This name has been known for more than a quarter-century as a leader in the production of high-grade insulations. Consumers know Armstrong as the maker of fine linoleum.

Armstrong's Temlok is extremely low in cost. Its lower conductivity and lower density add not one penny extra to the price. Complete data on the new Temlok and samples sent free on request. Armstrong Cork & Insulation Company, 917 Concord Street, Lancaster, Pennsylvania.

TEMLOK from the heartwood of Southern pine
Armstrong Cork & Insulation Co.



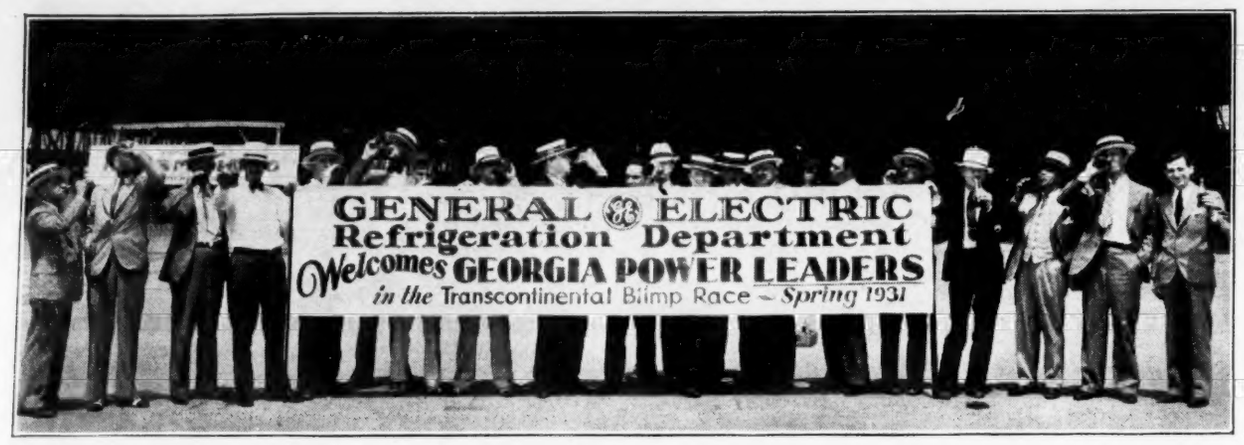
Armstrong's (A) Product

Armstrong's Life Test Room is ready to determine the efficiency of refrigerated equipment during a lifetime of normal service. Write to the Armstrong Cork & Insulation Company for full details regarding operation of this special laboratory.

Armstrong's Temlok

Low-Cost, Efficient Insulation for Domestic Refrigerators

Georgia Power Salesmen View Blimp at Cleveland


GENERAL ELECTRIC
Refrigeration Department
Welcomes GEORGIA POWER LEADERS
in the Transcontinental Blimp Race – Spring 1931

Twenty leading salesmen in the Georgia Power Co. blimp race recently visited the General Electric Co. offices in Cleveland. They were guests at the Pine Ridge Country club, Goodyear airport, and took a yacht trip.

APEX DEALERS SELLING $159.50 HOUSEHOLD MODEL

CLEVELAND—All Apex dealers are now offering for sale a new model household electric refrigerator for $159.50, sale of which was confined, until recently, to the immediate Cleveland area.

In most respects, this unit is the duplicate of model 454-P. The cabinet, however, instead of having porcelain finish inside and out, is so finished only on the interior. The outside is lacquered. The food storage capacity is slightly larger than that of the 454-P.

NEW SERVEL DEALER

KENT, Wash.—Mac Boyker, who operates a plumbing and heating business, has recently taken over the agency for Servel electric refrigerators.

Are These Frigidaires Siamese Twins?

NEW YORK CITY—Impressed by the modernism of America, the King of Siam will return to his native land with a large number of appliances for human comfort and convenience.

Several days ago, his uncle, who accompanied the king on his trip to the United States, walked into the Frigidaire Sales Corp. showroom here and purchased two portable domestic electric refrigerators, explaining that he wanted them for service in the palace in Bangkok.

They can be wheeled from place to place, providing refrigeration wherever there is a power inlet. The refrigerators were delivered to White Plains for shipment to Siam.

ELECTROLUX DISTRIBUTOR HAS BONUS PLAN CAMPAIGN

NEWARK, N. J.—With a quota set at 500 Electrolux refrigerators, the Public Service Electric and Gas Co. of New Jersey staged a 60-day refrigeration campaign which ended July 31.

The campaign featured a small down payment, 24 months in which to pay, a three year guarantee, and free installation.

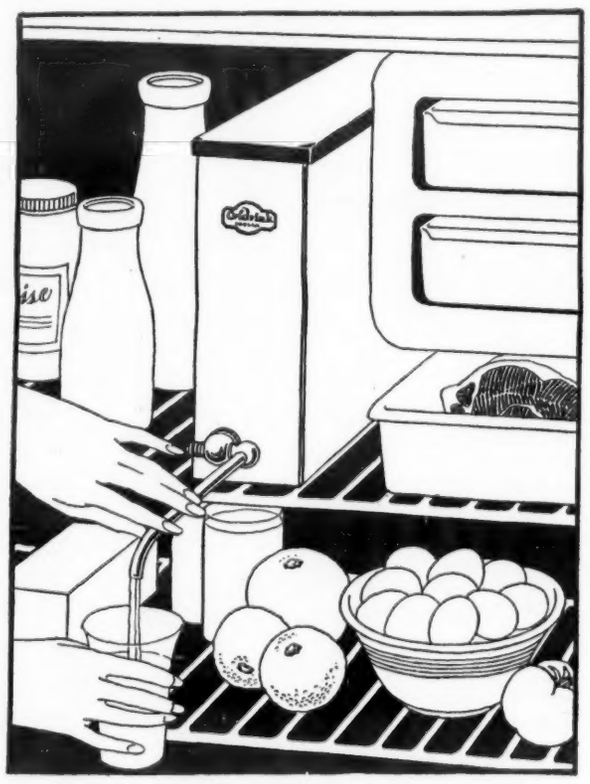
In the campaign prospectus prepared by James P. Hanlan, for the vice president in charge of sales, who directed the program, special bonuses were offered employes of the company in each of the 24 district offices throughout the state. These bonuses for leads resulting in sales ranged from $4.20 to $17.80 depending on the size and model of the refrigerator purchased.

Quick Profits

for dealers and distributors with the

New COLDRINK COOLER

For Domestic Refrigeration



Here is a specialty which produces attractive profits without a large investment, which can be handled by your present salesmen, which can be sold throughout the year and which requires no service.

Coldrink is easy to use . . . just fill with water and place on a refrigerator shelf with the faucet to the front. When you want a drink pull down faucet as shown in illustration and you have cool, fresh, running water.

The Coldrink Cooler produces profits because it is new, novel and one of the most useful of modern household conveniences. Anyone who has ever fumbled in a refrigerator for a bottle or pitcher of ice water will be interested in it.

It is simple in design, made of sheet steel heavily coated with vitreous enamel, has a chromium finish faucet and holds more than a gallon.

Nothing to attach to the refrigerator, no mechanical parts to give trouble.

JOBBERS and DEALERS
Write today for full information regarding representation in your market.

HAMBURG BROS.
963 Liberty Ave. - - Pittsburgh, Pa.

Good Showroom Lighting Creates Desire To Buy, Engineer Finds

By A. L. Lyman
General Electric Co., Nela Park, Engineering Department

ALL electric refrigeration dealers know that success in the sale of their products depends considerably on the drawing power and attractiveness of their showrooms. Only a few, however, put to full use the forces which attract people to the display rooms, show the merchandise to best advantage, and create the desire to buy.

Light is an attraction in itself, for people are drawn toward it just as the moth is drawn toward the open flame. Light may be used to give the refrigerator in every showroom its most impressive appearance. Because light has both advertising and utilitarian values, it is one of the best mediums through which the desire to buy may be created.

Modern methods of lighting make possible the correct quality and quantity of light in any size or type of electric refrigerator showroom. Good general illumination, the first requisite, is the result of the proper choice and arrangement of the light equipment.

General Lighting System

The many types of pendant fixtures for general lighting may be divided into three classes according to the manner in which they control and diffuse the light—indirect, semi-indirect, and direct.

Indirect fixtures reflect all the light to the ceiling and upper side walls, where it is thoroughly diffused. An indirect lighting system is highly recommended if the ceiling and upper walls are of a light color and can be maintained in a good reflecting condition. Such a system gives an excellent distribution of soft glareless light throughout the room.

Where the ceiling and upper portions of the walls are finished in fairly light colors, the semi-indirect unit may be satisfactorily used. This reflects approximately two-thirds of the light to the ceiling where it is well-diffused and redirected into the room, and the rest of the light is diffused through the translucent glass of the fixture and sent directly into the room.

The enclosing globe directs approximately two-thirds of the diffused light downward and the rest to the upper walls and ceiling. This direct lighting unit, therefore, should be used if the walls and ceiling are of such color that they cannot be depended on to reflect much of the light.

It is quite essential that the type of lighting, and the equipment to provide it, be determined by the conditions existing in the area in question. The average showroom, for example, with its clean, white refrigerator displays, is probably finished in light colors, and presents its most impressive appearance and greatest feeling of comfort when lighted by an indirect system. Modern fixtures are available in beautiful designs which are in keeping with the decorative scheme of the interior.

Location of Outlets

Since the wiring plan is the foundation of any lighting system, it deserves careful consideration. Because relighting often involves high wiring costs, it is economical to provide adequate wiring for the future as well as the present, since illumination levels have been and are on an upward trend. Failure to consider adequate wiring as an essential of the lighting system will result in lost light and unnecessary present and future expense.

The number of outlets needed to give the desired illumination throughout a given showroom area is determined by the height the units are to be mounted above the floor. The relation between their height and spacing is based on the distribution of light necessary to obtain a uniform level of illumination.

In general, the spacing of the units should not materially exceed their mounting height, if reasonably uniform illumination is to be obtained. As the height at which the reflector may be mounted is increased, larger and more efficient lamps may be used. If the units have been properly spaced and wire of sufficient capacity used, a change in the type of reflector or size of lamp may be made in the future without undue complication. If they are mounted no farther apart than they are high, reasonably uniform illumination throughout the room will be obtained, no matter what lighting system is used.

Amount of Light Desired

Before installing a lighting system, it is essential to determine the number of foot-candles necessary for satisfactory results. From 8 to 12 foot-candles are sufficient illumination for the showroom in a suburban district or small town, where the average illumination in neighboring stores is probably no greater, while 10 to 15 foot-candles are the recommended level for the downtown showroom, where the street and neighboring stores are more brightly lighted.

Two hundred-, 300-, 500-, or 1000-watt Mazda lamps may then be chosen to give the desired level of illumination.

Built-in Lighting

A newer method of obtaining adequate general illumination in the electric refrigerator showroom uses built-in lighting equipment. This method is made possible through the development and present availability of efficient reflecting equipment and diffusing media to give the light any desired distribution.

Usually such equipment consists of a metal box set in the wall or ceiling, with a diffusing or light directing glass over it and flush with the ceiling. One or more 200- or 300-watt lamps in reflectors are placed in each box behind the glass, in such a position as to send the light in a desired direction. Built-in lighting units may be ideally located at regular spacings over the entire area, or over particular displays.

They may be installed in columns or walls if the light is controlled well enough so as not to be glaring. Such built-in units with prismatic glass lenses may serve as excellent spotlights, where a high level of illumination is wanted, as for example, when a refrigerator is put on special display.

Various types of molded glass plates in figured designs are available to give an attractive decorative appearance to the showroom as well as a considerable amount of useful light. These give a particularly pleasing effect when lighted by various colors.

In fact, the electric refrigerator showroom offers many possibilities for the use of colored light, either in the general lighting to give a soft, pleasing effect, or in the special lighting of the refrigerators to make their beauty even more striking.

Other types of special lighting features may be incorporated in the showroom in close harmony with the structural features. Smaller wattage lamps spaced only a few inches apart may be concealed in coves about the room, on the walls or at the ceiling to give a pleasant atmosphere and unusual effect.

Display Window Lighting

The lighting of window displays is important, since it determines to what extent the passerby is attracted and the displays may be examined. The usual practice is to locate outlets along the top window front and sides on one or two foot spacings.

The reflectors with 200- or 300-watt lamps may be mounted either close to the ceiling or built-in, and louvers used to prevent them from glaring in the eyes of those on the street who may be examining the display.

Spotlighting serves to focus attention on a specially displayed refrigerator. The spotlighting units may be located at the upper front or sides where they concentrate the light on the display without glaring in the observer's eyes.

MEACHEM-FENN, INC., GIVEN ROCHESTER DISTRICT

DETROIT—Announcement has been made by the Kelvinator Corp. of the appointment of Meachem-Fenn, Inc., distributor at Syracuse, N. Y., as distributor for the Rochester, N. Y., territory.

Meachem-Fenn are among the oldest Kelvinator distributors and both the principals of the firm are former Kelvinator executives.

THE IMITATION FOOD PRODUCTS CO.
107 Lawrence St.
Brooklyn, N. Y.

Entering the Eighth Year of successful business

Ask for catalog of January, 1931

SALESMAN SELLS BIG ORDER TO HOSPITAL

NEWARK, N. J.—Jack Minard, salesman in the commercial department of Phil Harrison, G. E. distributor, recently closed the sale of the following refrigeration equipment to Morristown General Hospital: One C-1202, one CD-602, three PS4-17, one biological cabinet, three DP-1, one S-42, one icemaker, and one DP-3 with glass filler.

Other recent commercial department sales include: One S-42, five DP-1 and two DP-3 to Seaboard By-Products Coke Co.; four DP-1 and seven DP-3 to Bakelite Corp.; four S-42, two S-62, one CS-270, one S-100, one CS-451, and two DP-3 to St. Ann's Villa, St. Elizabeth's Convent; and 13 PS-13 and three PS-7 to Essex County Isolation Hospital at Soho.

FRIGIDAIRE DEALER SELLS 464 UNITS IN 1931

SCRANTON, Pa.—The Automatic Equipment Co., Frigidaire dealer in this territory, has sold and installed 464 units in 1931, according to Harry C. Glou of that concern.

Westinghouse PROVED SUCCESS means ever-growing profit for live dealers . . .

NOW
Two New Popular Priced Models!

FROM coast to coast enthusiastic buying of Westinghouse Refrigerators increases daily! Breaking all anticipations, orders keep flowing in—piling rich rewards for Westinghouse dealers!

POPULAR PRICED MODELS ASSURE RICH NEW MARKETS

Already many distributors have beaten their 1931 quotas! And now with the announcement of two brand new popular priced models a greatly increased demand is assured! Think! Every Westinghouse dealer can now offer a Westinghouse Refrigerator at a price every home can easily afford!

Model WL65 with 7.28 cubic foot capacity retails for only $240 f. o. b. factory! Its companion WL85 has 8.98 cubic foot capacity and retails for only $340 f. o. b. factory. Both units are ideal for three to six person families! And both have all basic "Completely Balanced" features! Consider: Westinghouse forced-draft, hermetically sealed Quiet Mechanism concealed in the flat, usable Buffet Top, Arm-high 7-Point Temperature Selector, Automatic Built-in Watchman and many other important, exclusive Westinghouse advantages. Cabinets are of steel with sanitary porcelain linings.

INCREASED, POWERFUL NATIONAL ADVERTISING

To carry the Westinghouse story into literally millions of homes Westinghouse is launching an increased national advertising campaign in leading national publications! Big double spreads in color with direct hard-hitting messages! But, that isn't all—Westinghouse supports the dealer with every possible merchandising assistance. Smart, colorful literature of practically all descriptions, carefully prepared and proved successful dealer's plans, tested cooperative newspaper advertising campaigns, inviting window displays, complete mat service and unlimited, free merchandising counsel!

A FEW TERRITORIES STILL OPEN—FIND OUT ABOUT YOUR OPPORTUNITY!

Westinghouse Refrigerator franchises are being snapped up all over the country by aggressive, live-wire dealers. A limited number are left—maybe in your own locality! Write immediately as to how you can get started at once on the road to bigger, ever-growing profits with the new Westinghouse Refrigerator. Use the coupon or, better still, send us a telegram.

WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY
Merchandising Department, Mansfield, Ohio

WESTINGHOUSE ELECTRIC AND MANUFACTURING CO.
Merchandising Department, Mansfield, Ohio
Please send me details of the WESTINGHOUSE Refrigerator Franchise.

Name .....

Address .....

MODEL WL65—Beautiful steel cabinet, white lacquer with glistening porcelain lining for small family home or apartment. Capacity 7.28 cubic feet. Shelf area 11.40 square feet. Makes 11 pounds of ice or 96 ice cubes. Has hermetically sealed, trouble-proof Quiet Mechanism; conveniently flat, usable Buffet Top; Arm-high 7-speed Temperature Selector; Automatic Built-in Watchman and other WESTINGHOUSE "Completely Balanced" features.

MODEL WL85—The two-door type in this popular priced group. Beautiful lines. Capacity 8.98 cubic feet. Shelf area 14.10 square feet. Makes 11 pounds of ice or 96 ice cubes at a time. A steel cabinet in glistening white lacquer . . . sanitary porcelain lining and all the other "Completely Balanced" features.

Westinghouse *Refrigerator*

The Name "WESTINGHOUSE" is your guarantee

PROMOTING RECOVERY ADVERTISING THEME

Q. "How do you find business?"
A. "By going after it."

"Such is the enterprising answer to a question that is notably current. Employes and dealers in the areas served by the Associated Gas and Electric System answered it by setting a new record during their recent six weeks' refrigerator sales campaign."

This is the introduction to No. 1 of a series of advertisements by the Associated Gas and Electric System, 61 Broadway, New York, appearing in the financial pages of large city newspapers Monday, August 3. Continuing, the advertisement says:

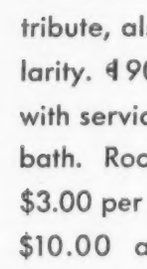
"Customers in the area served by the Associated System purchased 19,489 automatic refrigerators in six weeks. This is more than they purchased during a similar campaign last year when the Associated System sold the largest number of refrigerators ever sold by a utility group in a single campaign.

"About half or 9,592 of these sales in the recent campaign, were made by dealers who were assisted by a plan of cooperation established by the Associated New Business Department.

Stability from Domestic Use

"Growing domestic use of electricity from sale of appliances increases the natural stability of the industry. Stability from this source is becoming even more pronounced. During 1930, use of electricity in homes accounted for 33½% of the revenues of the industry compared to 28% in 1921."

The advertisement mentions that the Associated System serves 1,432,108 customers in 3,117 communities.



"The Roast Chicken is Very Good Sir"

IN fact, Hotel Fort Shelby is proud of its entire menu. Its four restaurants offer the ultimate in service . . . and your choice of a variety of tempting and delicious dishes at surprisingly, reasonable prices. ¶ Hotel Fort Shelby's preferred location . . . beautiful, commodious rooms . . . inviting lobby and reasonable rates contribute, also, to its popularity. ¶ 900 units . . . all with servidor and private bath. Rooms as low as $3.00 per day . . . suites $10.00 and upwards.

Motorists are relieved of their automobiles at the door without service charge. Write for free road map, and your copy of "Aglow with Friendliness," our unique and fascinating magazine.

HOTEL Fort Shelby

E. J. BRADWELL, Manager
DETROIT

"AGLOW WITH FRIENDLINESS"

Off to the Races

Forty "quota busters" of the Strong, Carlisle & Hammond Co., Norge distributor at Cleveland, were guests at the Norge plant in Detroit and the horse races at Windsor, Ont., following a recent sales contest. The salesmen inspected the plant and were addressed by Howard Blood, president, and John H. Knapp, vice president.

GENERAL FOODS DIVIDENDS INCLUDE NEWS LETTER

Quarterly dividend checks issued Aug. 1 by General Foods Corp. are enclosed in a neat folder which contains a brief "news letter to stockholders" signed by C. M. Chester, Jr., president.

Three subjects are discussed. First, the second quarter earnings amounting to $4,595,059, equivalent to 87 cents per share on 5,256,350 shares of no par common stock outstanding. (Complete report was published in ELECTRIC REFRIGERATION NEWS July 29.)

The second topic is the new Vita-Fresh process for keeping roasted coffee fresh. This new method of packing is applied to Maxwell House coffee.

Frosted foods progress is emphasized in the final statement as follows:

"In conjunction with the Standard Oil Co. of California, General Foods has formed Pacific Frosted Foods, Inc., for the commercial development of the Birdseye quick-freezing patents in the Pacific West. Distribution of quick-frozen foods has already been extended to more than 60 cities in New England.

"A contract between Commercial Credit Co., Baltimore, and General Foods Corp. now provides for deferred payment financing of sales of refrigerated show cases to retail stores."

SIX DISTRIBUTORS NAMED BY UNIVERSAL FREEZER

PITTSBURGH—Six new distributors of Universal ice cream freezers have been announced by John V. Larson, general sales manager of the Universal Freezer Corp. here. Each of these firms has been given exclusive rights in its territory, Mr. Larson says, and can appoint sub-distributors in those territories.

The new distributors follow: R. H Tait & Sons, Inc., St. Louis; Metropolitan Edison Co., Reading, Pa.; Chicago Metal Specialties Co., Chicago; Virginia Ice Machine Corp., Richmond, Va.; Hawkeye Supply and Mfg. Co., Mason City, Iowa; and the R. M. Flagg Co., with outlets at Bangor, Me., and Portland, Me.

APPOINT NEW DISTRIBUTOR IN FLORIDA AREA

MIAMI, Fla.—(UTPS)—F. J. McGinnis, Inc., of Palm Beach and Miami will take over the sales, service and distribution of Kelvinator refrigeration in southeastern Florida, with territory extending from Titusville to Key West.

F. J. McGinnis, Palm Beach, is president of the distributing company and Arthur K. Woodman, vice president.

Early in August, the Miami branch will be formally opened.

FLORIDA FRIGIDAIRE DEALER OPENS DISPLAY ROOM

LAKELAND, Fla.—A new electric refrigeration display room has been opened in connection with the Lipscomb & Roe Electric Co. store here. The store handles Frigidaires and a complete household display is carried in the new room. The dealer is opening a branch store in Winter Haven, Fla., where the models will be displayed also.

LOWELL HOSPITAL BUYS EIGHT G. E. UNITS

LOWELL, Mass.—St. John's hospital, one of the largest and most modern institutions in the city, has added electric refrigerators to its equipment. Six S82 General Electric and two S42 models have been placed in the various diet kitchens and laboratories throughout the building.

SEATTLE RADIO CO. NAMED MAJESTIC DISTRIBUTOR

SEATTLE, Wash.—The Coast Radio Co. has been appointed Northwestern distributor for Mohawk electric refrigerators in Washington and Oregon. The local radio and music house is headed by J. H. Arensberg, president and co-owner with Julius Bogatin, manager.

Veteran Frigidaire In England

LONDON, England—Search for the first electric refrigerator to be installed in England has unearthed a pioneer Frigidaire owned by A. R. Faulkner of Fairlawn, Parkside, Wimbledon Common.

Mr. Faulkner was visiting in America in 1924 and was so struck with a unit he saw at a fair in Richmond, Va., that he purchased one and had it shipped to his home, where it has been in continuous operation ever since.

W. J. BRYAN NAMED NORGE REFRIGERATOR DEALER

LOS ANGELES, Calif.—W. J. Bryan, occupying quarters with the Electrical Appliance Co., has recently been appointed Norge dealer.

JEWETT CONCERN MAKES 'CUSTOM-BUILT' UNITS

BUFFALO, N. Y.—Manufacturing and selling "custom-built" refrigerators, with molded solid porcelain interiors, for either ice or electric refrigeration, is the chief interest of the Jewett Refrigerator Co. of this city.

Most of its work is done on special order, where the particular requirements of large home, hotel, club, hospital or other institution can be met by a small firm prepared to build to a wide variety of specifications.

The customer's choice of condensing units and cooling coils is met by offering either Fedders, Frigidaire, General Electric or Kelvinator equipment, all of which Jewett refrigerators can be designed to accommodate.

The feature of the Jewett line is the solid porcelain linings, 1¼ in. thick, molded and kiln-fired in potteries operated by the Jewett firm. Hardwares are of chromium-plated brass.

Export of Refrigerators

May Shipments Reported by the Bureau of Foreign and Domestic Commerce

	Electric Household Refrigerators		Electric Commercial Refrigerators Up to 1 Ton		Parts for Electric Refrigerators
	Number	Value	Number	Value	Value
Austria	100	$ 7,772	43	$ 4,610	$ 7,002
Belgium	662	79,510	60	9,122	32,360
Czechoslovakia	4	400	23	3,078	5,990
Denmark	79	7,015	36	4,511	13,463
Finland	3	578	1	99	154
France	260	20,194	376	40,270	131,023
Germany	67	10,985	101	10,859	15,327
Gibraltar	...	...	...	...	32
Greece	6	2,097	...	...	87
Hungary	7	807	...	...	43
Irish Free State	15	1,445	2	314	548
Italy	105	9,551	91	9,373	8,450
Latvia	7	624	...	...	...
Netherlands	162	14,418	69	8,909	7,050
Norway	12	1,606	...	...	1,068
Poland and Danzig	11	1,129	4	628	599
Portugal	25	4,073	3	410	1,566
Rumania	37	3,190	37	3,972	2,271
Spain	30	7,251	14	1,893	1,481
Sweden	234	20,664	59	7,311	11,360
Switzerland	392	37,474	101	13,994	31,921
United Kingdom	1,640	175,342	814	91,664	128,389
Yugoslavia and Albania	3	286	18	2,092	3,084
Canada	3,197	346,756	597	85,337	119,981
British Honduras	...	...	...	...	36
Costa Rica	...	...	...	...	23
Guatemala	17	2,841	...	...	169
Honduras	6	1,405	...	...	110
Panama	123	21,831	2	452	1,170
Salvador	2	417	...	...	113
Mexico	156	30,229	14	4,939	2,032
Newfoundland and Labrador	6	889	...	...	314
Bermudas	19	2,564	1	299	1,066
Barbados	3	737	...	...	21
Jamaica	...	...	1	499	68
Trinidad and Tobago	...	...	1	506	50
Other British West Indies	3	468	1	432	...
Cuba	92	12,673	1	284	2,022
Dominican Republic	...	...	...	...	38
Netherland West Indies	3	480	1	371	32
Haiti, Republic of	5	816	1	176	171
Virgin Islands of U. S.	1	259	...	...	...
Argentina	...	...	...	...	16,926
Brazil	42	4,887	21	3,794	3,532
Chile	19	3,403	1	389	...
Colombia	254	36,458	13	2,396	2,082
Ecuador	12	1,666	...	...	17
French Guiana	1	80	...	...	...
Peru	2	152	...	...	963
Uruguay	3	262	...	...	1,308
Venezuela	75	10,534	8	1,514	833
Arabia	...	...	1	689	67
British India	95	14,073	8	1,030	2,627
British Malaya	34	4,922	...	...	612
Ceylon	23	4,076	...	...	81
China	43	8,671	...	...	204
Java and Madura	13	2,419	2	498	443
Other Netherland East Indies	...	...	1	763	421
Hong Kong	7	819	1	155	1,222
Japan	131	11,348	31	3,874	2,129
Kwantung	...	...	14	2,084	3,303
Philippine Islands	92	14,265	...	...	410
Turkey	...	...	...	...	50
Australia	1	110	...	...	268
New Zealand	6	690	...	...	31
Belgian Congo	8	1,495	...	...	...
British East Africa	6	874	4	560	269
Union of South Africa	161	22,761	11	2,182	2,836
Other British South Africa	6	1,015	...	...	...
Gold Coast	1	84	...	...	45
Nigeria	...	...	...	...	14
Egypt	3	654	4	546	922
Algeria and Tunisia	62	6,714	15	2,441	1,105
Morocco	99	13,020	17	2,487	2,086
Mozambique	13	2,196	...	...	356
Canary Islands	27	4,842	...	...	...
Total	8,693	$1,001,266	2,624	$331,806	$575,851
Shipments to Hawaii	128	20,769	14	5,657	11,902
Porto Rico	104	18,212	7	1,769	3,865

OPENING CEREMONIES BUILD PROSPECT LIST

CLEVELAND, Ohio—Thousands of prospects for electric refrigeration are being obtained by the Cushman Refrigeration Co., General Electric refrigerator distributors here, during the opening of its new showrooms.

The showrooms—advertised as the largest electric refrigerator display rooms in Ohio—were officially opened July 29, but the dedication ceremonies will extend through August 20.

The event was widely publicized. The Cushman Co. has been running large-sized ads in daily and weekly newspapers, while about 20 dealers throughout the Cleveland territory have been tying in with the main advertising.

In addition, the radio is being used, announcements concerning the opening and events incident to it, being announced each evening.

In moving from its former quarters, the Cushman company has more than doubled its space—having, in all, 28,000 square feet.

A replica of the One Millionth General Electric refrigerator—sister refrigerator to the one given Henry Ford for his Edison Institute of Technology at Detroit—will be awarded as a feature of the ceremonies.

Every adult visiting the new store will be given an opportunity to win it. In this manner, names and addresses of many prospects are being obtained.

Other features which are attracting crowds are the model kitchen, the home service institute, and the display of a "magic" drinking fountain, operated by an "electric eye."

BUFFALO MARKETS BUY McCRAY REFRIGERATORS

BUFFALO, N. Y.—Butchers have been good customers recently, observes A. L. McCormick, distributor for McCray refrigerators here.

The Harry H. Harris market has just installed a 12-ft. display counter, refrigerated by Copeland equipment, while the market of George Harold & Sons has just purchased similar equipment, cooled by a Frigidaire machine.

The Buffalo Atlantic & Pacific stores have recently installed two 10-ft. porcelain display cases, and Rochester A. & P. branches put in six of the same, refrigerated by Lipman and Frigidaire equipment.

The Danahy-Faxon stores, a Buffalo chain handling groceries and meats, has several new No. 160 McCray market coolers, Mr. McCormick reports.

N. E. L. A. 1931 RATE BOOK ISSUED AUGUST 10

NEW YORK CITY—According to announcement made by the National Electric Light Association, the 1931 edition of the N. E. L. A. Rate Book went on sale Aug. 10.

The publication includes uniform schedules of the residential, commercial, and power rates effective as of Jan. 1, 1931, in all cities in the United States and Canada having a population of 20,000 or over. A number of smaller cities have been added to the book in order that each state may be represented by at least two different operating companies.

Supplements will be issued at intervals in order that all rate data may be kept up to date. Any member of the association may purchase copies of the book at $10 each, while the price for non-members is $25.

FULLER APPOINTED DEALER AT COLLINSVILLE, ILL.

ST. LOUIS, Mo.—Officials of the Del-Home Light Co., Frigidaire distributors for the St. Louis district, have announced the appointment of Douglas Fuller, former sales supervisor of the company, as Frigidaire dealer in Collinsville, Ill.

FINCH APPOINTED MANAGER OF GAS PROPERTIES

WALLA WALLA, Wash.—Ray C. Finch, formerly director of domestic sales for the Seattle Gas Co., has been appointed commercial manager of all properties of the Northwest Cities Gas Co. with headquarters in this city.

RICHARDS JOINS WASHINGTON SUPPLY CO. FORCE

SPRINGFIELD, Ill.—(UTPS)—H. T. Richards, who formerly conducted the Springfield Kelvinator Sales Co., has become associated with the Washington Supply Co., distributor for the Kelvinator refrigerator.

OHLHAVER JOINS GRAND RAPIDS CABINET CO.

GRAND RAPIDS, Mich.—H. W. Ohlhaver, formerly with the engineering division of Swift & Co. in charge of quick-frozen products, is now with the Grand Rapids Cabinet Co. of this city.

MAJESTIC NET LOSS FOR YEAR $2,020,389

(Concluded from Page 1, Column 5)

tractual commitments amounted to $519,296.

B. J. Grigsby, chairman of the board and president of Grigsby-Grunow Co., in his letter to stockholders, accompanying the annual report, said: "Your directors have taken the opportunity at the close of the year to create substantial contingent reserves in order that earnings in future years may be more adequately reflected.

"Inventories, which do not include any non-usable materials, have been priced at the current low values brought about by the general decline in commodity prices. As a result, the 'slate is clean' and the company's financial condition is the strongest in its history.

Sales Total $28,350,881

"Sales of Grigsby-Grunow Co. for the fiscal year ended May 31 amounted to $28,350,881, of which approximately $2,700,000 represent sales of refrigerators during the latter part of April and during May, 1931, following the consolidation of Grigsby-Grunow and Majestic Household Utilities Corp.

"During the period under review, your directors made very drastic changes in the internal organization of the company effective as of January last. These included a complete reorganization of the personnel of the active executive management, and of the production, sales and purchasing divisions.

"In these changes, I resumed active duties as president and Don M. Compton was elected executive vice president and general manager, the result being economies in operation at the rate of more than $2,000,000 per annum. A profit from operations was earned for the four final months of the fiscal year from February to May inclusive."

Distributors Meet

(Concluded from Page 1, Column 5)

a speech of welcome. He was optimistic as to the revival of purchasing power all over the country.

Mr. Grigsby then turned the meeting over to Don Compton, vice president and general manager, who discussed the financial condition of the company.

Vernon W. Collamore, general sales manager, then took the meeting into the business for which it was assembled with an outline of the history of the radio industry, declaring that each year since 1921 some one company has had outstanding success due either to its having exclusive features or having new developments on the market first.

Other speakers included Mr. Wanamaker, who went into Majestic's advertising and sales promotion plans and policies in great detail and showed with displays the material to be used this fall; Robert Brunhouse, assistant sales manager in charge of refrigeration; James Bristol, who develops finance plans for distributors and dealers; H. M. Pauley, service manager on all Majestic products.

Mel Richmond, producer of night club shows, assembled a group of entertainers including Yvette Rugel, RKO headliner and featured in the Follies; Freddie Stritt, a Publix Theatre star, long the master of ceremonies at Chicago's Lincoln Tavern Town club; Madeline MacKenzie, recently at the Paramount Theatre in New York with "Rudy" and then on tour with Abe Lyman, and others, following the banquet.

HOLLEY-MASON NOW NORGE DISTRIBUTOR

SPOKANE, Wash.—The Holley-Mason Hardware Co. has been named Norge distributor for the eastern portion of Washington, Idaho and Montana.

Dealers already appointed in this territory are: the Peck Plumbing & Heating Co., and the Monroe Hardware Co. of Spokane; Davis-Kaser Co., Walla Walla; Cash Hardware Co., Tekoa; Berger's Garage, Pullman; Palouse Hardware & Implement Co., Palouse; H. S. Livingston, Davenport; Dave Powell, Colfax; O. L. Lundale, Deer Park; A. J. Stratebecker, Garfield; William Fawkes, Rexford, Mont.; F. E. Sabin, Eureka, Mont.; C. M. Wilderman & Co., Moscow, Idaho; Potlatch Mercantile Co., Potlatch, Idaho; and Hallie Owens, Sandpoint, Idaho.

VERBA JOINS FIELD STAFF OF MAJESTIC DISTRIBUTOR

NEW HAVEN, Conn.—J. H. Verba has resigned as refrigeration manager for the H. M. Bullard Co., Majestic dealer, to join the field staff of Stern & Co., Hartford, Majestic distributor for western New England.

WISCONSIN SALESMAN SETS 10-DAY RECORD

BURLINGTON, WIS.—J. M. Holtz, Frigidaire salesman for Badger Radio Sales, broke all previous local sales records by closing 14 sales in 10 days.

G. E. Employes Seek Racing Laurels

Women employes of General Electric refrigeration department competed in races at a recent picnic.

BUFFALO DEALER OPENS NEW STORE, WAREHOUSE

BUFFALO, N. Y.—Specialty Wholesalers, Inc., Majestic radio and electric refrigerator dealers, have opened a new display room, office, and warehouse here.

The store will be formally opened in a celebration about the middle of August. The distributor handles Majestic lines in seven New York counties.

C. J. Pagel is vice president and general manager of the concern while the personnel includes S. H. Wheat, Jr., office and credit manager; B. L. Kulick, refrigeration manager; Nick Andriatch, service manager, and Robert Sheridan, William Garlock, and Roy Robinson, sales representatives.

SPRINGFIELD DEALER WINS SALES TROPHY

SPRINGFIELD, Ill.—(UTPS)—James & Co., Springfield General Electric refrigerator store, won the trophy plaque offered by the St. Louis district distributor for doing the best business in a month.

THIRD FURLONG ENDS IN KELVINATOR DERBY

(Concluded from Page 1, Column 1)

Campaign" which is being conducted in connection with the derby. This contest ends August 31.

The letters are on the subject, "What I Have Learned About Kelvinator," and are 200 words in length. First prize in the contest is $5,000 while second prize amounts to $1,250. Thirty-five Kelvinator models are offered also as prizes.

At the end of the second furlong, the three leaders at each of the tracks were:

Pimlico—Pittsburgh, Northern States, and St. Louis; Churchill Downs— Syracuse, Washington, Ill., and Cleveland; Arlington Park—Denver, Charlotte, N. C., and Elmira; Belmont—Seattle, Huntington, and Jackson; Latonia—Little Rock, Jacksonville, Fla., and Boise, Idaho.

Hawthorne—Indianapolis, Hagerstown, Md., and Clarksburg, W. Va.; Laurel—Montgomery, Ala., Lancaster, Pa., and El Paso, Texas; Bowie—New Haven, Williamsport, and Roanoke, Va.; Washington Park—Mobile, Ala., Morristown, N. J., and Akron, O.; Fairmont—Dayton, O., Sault Ste. Marie, and Findlay, Ohio.

Simplified Refrigeration

EASY TO SELL

THROUGH ALL 4 SEASONS

. . . a sure way to increase business volume the year 'round!

HARD TIMES actually make it easier to sell the Servel Hermetic. People are buying more carefully now than ever before. They are more alert to the unbeatable series of selling points that Simplified Refrigeration gives you. They want its economical operation—its freedom from costly kitchen repairs. They instantly appreciate its low cost—welcome the chance to enjoy the tremendous convenience of "care-free" refrigeration at a real saving over old-fashioned methods.

It will pay you to go after business hard during late summer and fall months. Thousands of prospects are deciding right now "not to wait another year." Thousands more are realizing that refrigeration is a twelve months' necessity.

Make a strong drive for this profitable August and September business. You will find a quick acceptance for Simplified Refrigeration. For the Servel Hermetic eliminates kitchen repairs, intricate adjustments or replacement of parts.

SERVEL SALES, INC., EVANSVILLE, IND.

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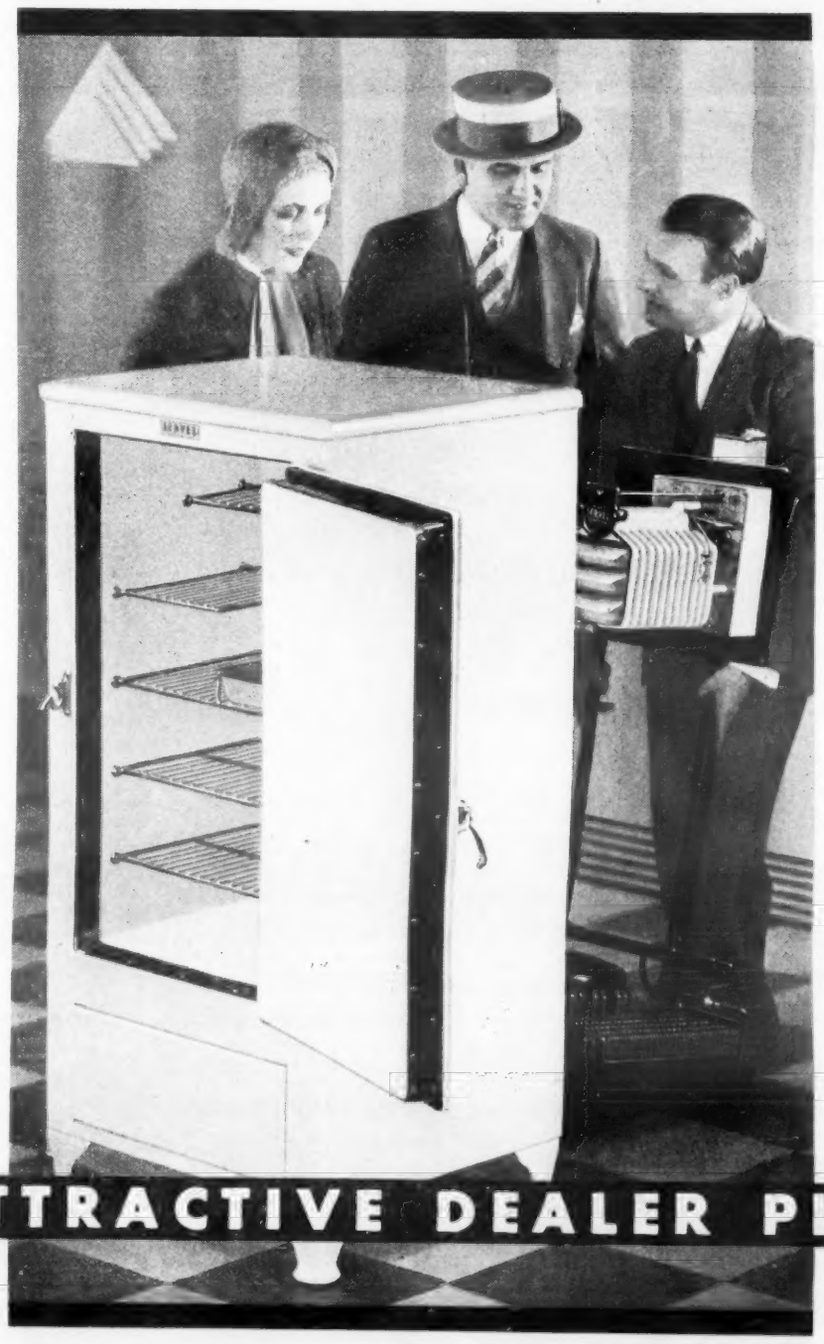
A COMPLETE LINE OF HOUSEHOLD AND COMMERCIAL REFRIGERATION



WRITE FOR OUR ATTRACTIVE DEALER PLAN

Quick Facts

Hermetically sealed unit... No kitchen repairs... No moving parts exposed... Fewer moving parts... Costs less to operate... Quietest electric refrigerator... Handy temperature control... More, usable shelf space... Flat, usable top (unit in base)... No installation problem... Broad factory guarantee...

•

SERVEL

HERMETIC

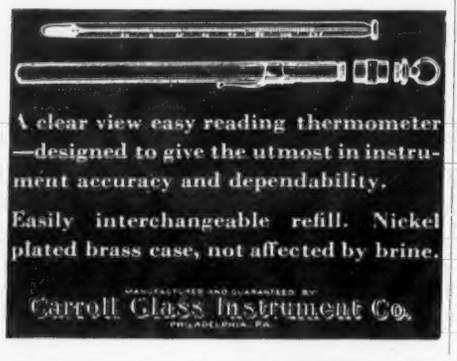
BROOKLYN CO. SHOWS BIG SALES INCREASE

BROOKLYN, N. Y.—The greatest Electrolux refrigerator sales year is expected in the territory in Brooklyn and Queens served by the Brooklyn Union Gas Co. on the basis of refrigerator sales for the first half of the year, according to George F. B. Owens, domestic sales manager of the new business department.

During the first six months of this year sales of refrigerators, as well as total sales of domestic appliances, were regularly greater each month than during the corresponding period of 1930.

In June refrigerator sales showed an increase of 125 per cent over the corresponding month of last year. Wholesale refrigeration showed a 128 per cent increase while the retail advance was 120 per cent.

The Electrolux sales in the Brooklyn Union Gas Co. for June, July, August and September of this year are expected to show an advance over the similar period of 1930. This advance will be due in greater measure to two sales contests. One was held during June and July, and the other is being conducted through August and September.


A clear view easy reading thermometer—designed to give the utmost in instrument accuracy and dependability.
Easily interchangeable refill. Nickel plated brass case, not affected by brine.
Carroll Glass Instrument Co.

Mahomet Goes to The Mountain

PASSAIC, N. J.—While some dealers are worrying because they can't get prospects to the showroom, A. D. Staltlander, salesman for the Henderson Co., Westinghouse dealer here, doesn't worry at all. He just gets into his own showroom and drives around to see his prospects.

Mr. Staltlander uses a truck with a 20-foot enclosed body, which he designed himself. In it he carries Westinghouse electric refrigerators, a vacuum cleaner, radio, washer, ironer, oil burner, and toaster.

All he has to do is drive the truck to the housewife's door, and half the job is done. Then he brings on the salesmanship.

15,000 VIEW OKLAHOMA CITY REFRIGERATION SHOW

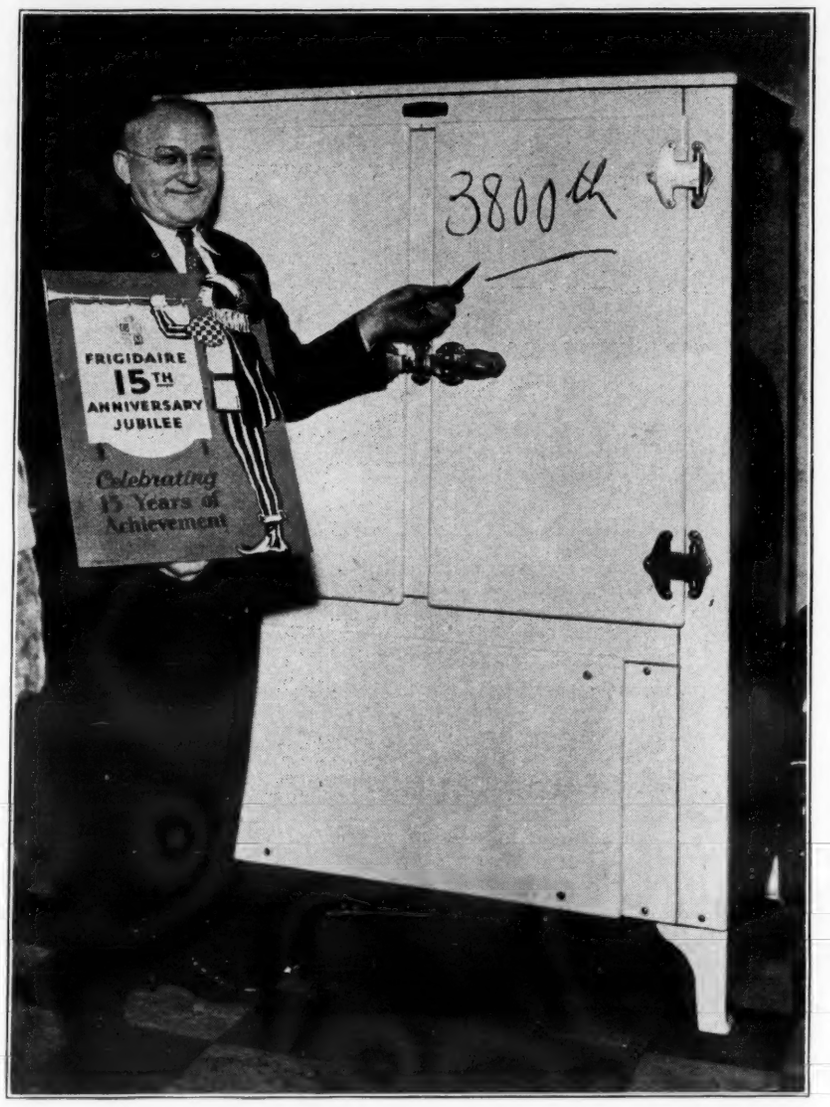
OKLAHOMA CITY—More than 15,000 people attended the electric refrigeration show held here recently under the sponsorship of the *Oklahoman* and the *Times*, local newspapers.

The Oklahoma Gas and Electric Co. sales development department and home service department contributed materially to the success of the show, while all the electric refrigerator dealers in Oklahoma City were represented on the floor of the Standard market, where the exhibit was held.

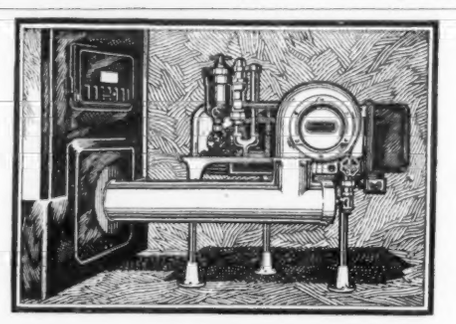
Daily lectures were held at 3:30 and 8 p. m. by John Brooks, electric refrigeration specialist, and Harriet Brigham and Nellie Osborn, home economic experts. Refreshments and music were provided.

A great deal of advertising was carried in both papers in Oklahoma City.

Proud of His Record



George Wettenstein, floor supervisor for the Cincinnati Frigidaire sales organization, was honored recently when he closed his household sale No. 3,800. He has been selling Frigidaires for seven years.



Why *some* electrical refrigeration dealers have no *slack* season

It's simple. They also sell QUIET MAY Oil Burners—the standard by which all oil burners are measured.

What's more, they sell them at a liberal profit. QUIET MAY dealers gross 40% and up—a gross that has a lot of net. QUIET MAY owners are satisfied owners. There are no costly demands for service.

It will pay you to look into the QUIET MAY franchise—RIGHT NOW. You'll find in QUIET MAY 100% dealer support. Liberal factory sales and engineering help—a smashing advertising campaign tested to make sales for you—these are highlights of a consistent policy of dealer cooperation.

But hear what other electrical refrigeration dealers say. Just write us and we'll give you the names of some of our dealers who are making an outstanding success of QUIET MAY. Address:

New Business Division
May Oil Burner Corporation . . Baltimore, Md.

QUIET MAY
AUTOMATIC OIL BURNER

SEATTLE DEALERS EXHIBIT UNITS IN OUTDOOR SHOW

SEATTLE, Wash.—Seattle's first annual electric refrigeration display was held from July 25 to August 2 in connection with the Seattle Exposition and Outdoor Show.

All dealers in the city united in a showing of $50,000 worth of household and commercial refrigeration equipment.

The display, under auspices of the Electric Refrigeration bureau, was housed in a separate building where 3,500 square feet of display space was utilized.

The committee in charge of this exhibit included Kenneth L. Schoenfeld, Schoenfeld's Standard Furniture Co., Kelvinator; J. C. Williams, Harper-Meggee, Inc., Servel; Jack Saunders, McBride and Saunders, Frigidaire; James Bruce, Gordon Prentice, Inc., General Electric, and James Cummings, Schwabacher Hardware Co., Mayflower.

KELVINATOR EXECUTIVE SPEAKS AT PITTSBURGH

PITTSBURGH—Vance C. Woodcox, Kelvinator sales promotion manager, was the principal speaker at the meeting of the Advertising club here recently.

Mr. Woodcox talked on the subject of sales promotion literature, explaining in detail the methods used by the Kelvinator Corp. which have been tested and proved successful.

Mr. Woodcox explained the "comparison campaign" in detail, telling of the newspaper advertisements, literature, and other sales promotion activities behind it.

KELVINATOR DISTRIBUTORS VISIT DETROIT PLANT

DETROIT—Malcolm Rogers, merchandise manager of the Central Illinois Public Service Co., Springfield, Ill., recently visited the Kelvinator headquarters in conference with sales executives.

W. C. Raabe, of Raabe & Mauger, Kelvinator distributor at Albuquerque, N. Mex., also visited here en route east. Mr. Raabe spent the day with officials of the Kelvinator Corp.

BINDER CO. OPENS BRANCH OFFICE AT NEWARK

TRENTON, N. J.—Since the addition of northern New Jersey territory to the franchise of the Binder Distributing Co., Copeland distributor of this city, the company has opened a branch office at 98 Frelinghuysen Ave., Newark.

T. W. Binder, brother of Benjamin Binder, president of the company, will be in charge of the Newark office.

Boards Bus And Sells G. E. Unit

YPSILANTI, Mich.—Harry Schaefer, General Electric dealer here, and lieutenant-governor of the Caswell-Stull dealer club, recently sold an electric refrigerator "on the fly."

One morning several weeks ago, a G. E. owner called Mr. Schaefer, telling him where to locate a woman who was preparing to buy a refrigerator. The dealer drove to the address given him, but found that she had left by bus for Detroit.

So Mr. Schaefer rushed to the bus station, bought a ticket, and boarded the bus just as it was leaving. While en route, he asked the woman for permission to install a General Electric unit in her home for a trial.

He trotted out his best sales talk, had the refrigerator installed, and called on the prospect the next morning. When he left her home, he took with him a check in full payment for the unit.

BRIDGEPORT HOSPITAL BUYS G. E. REFRIGERATOR

BRIDGEPORT, Conn.—Two installations in institutions were made recently by Allen Bros., General Electric refrigerator dealers. The first, a G. E. C-450, 45 cu. ft. refrigerator, was placed in the cafeteria of a new wing at the Bridgeport General hospital.

More than a dozen other G. E.'s are now in use at this hospital, according to Everett Allen, manager of Allen Bros.

An S-140 refrigerator of 14 cu. ft. capacity has been installed in the Sterling Widow's Home to be used for food storage.

STARR FREEZE STORE SELLS 104 UNITS IN 100 DAYS

RICHMOND, Ind.—Regular employes of the Starr Piano Co. sales corporation here sold 104 Starr Freeze electric refrigerators in a 100-day drive recently completed. The quota set for the drive was 100 sales or one sale per day.

The following employes of the retail store were responsible for the new record: M. M. Deltour, Ed Sweet, Howard Thomas, Estel Keever, L. R. Beeson, W. F. Young, Paul Kring, Roland Nusbaum and H. F. Hanning.

REFRIGERATION MATERIALS

BALTIMORE — The Sprayo-Flake Corp. of Maryland has been organized for the purpose of dealing in refrigeration, insulation, electrical, and heating apparatus and accoustical materials. The incorporators are Rogers L. Leilich, Orville H. Mowbray and William C. Conwell.

SPEAKER LISTS MANY CLIENTS FOR COOLERS

CHICAGO, Aug. 3.—Brokers, confectioners, delicatessen owners, restaurant proprietors, florists, undertakers and furriers in Chicago furnish a potential market with a half million dollar range in volume for room coolers, Mark Mooney of the Chicago Copeland Co. told 80 local dealers meeting at the Medinah Athletic club.

"Large groups of busy customers and traders will frequent the customers' room in the brokerage office that is equipped with a room cooler," Mr. Mooney stated. "Long summertime conferences can be made a pleasure rather than something to be avoided by a cooling system."

Statistics demonstrate that restaurants unequipped with room cooling systems lose 40 per cent of their business from June 1 to October 1. The two main reasons for this falling off, it was pointed out, are the migration of customers to restaurants already equipped with cooling systems and the loss of appetite occasioned by hot surroundings.

"Mr. DeMet, the confectionery-chain owner, has given personal testimony to the value of room cooling," Mr. Mooney declared. "He has likened the effect of room cooling on the retail confectionery business in the summer to the visit of the doctor to the sick man."

The method of keeping rooms at a proper temperature and humidity is also a distinct aid to the manufacturer of confections. Installations in chocolate-dipping rooms have cut the hot-weather loss from 20 per cent to less than five per cent.

"Bakers, furriers, florists, and undertakers are prospects who can use room cooling the year around," the speaker told the dealers.

C. B. McCormack, engineer with the Chicago Copeland Co., explained the proper method of installation and operation by which the expense for a 1 hp. unit for a room cooler may be kept to a 20 cents a day minimum.

"The Value of Newspaper Publicity," might well have been the title of the talk by R. M. Douglass, advertising manager from the Copeland plant.

"You can't overestimate the value of getting your name in ELECTRIC REFRIGERATION NEWS, in trade journals, and in the columns of your local paper," Mr. Douglass expounded. "What you must understand, however, is that your items must be news—not ballyhoo."

The promotion man outlined methods of getting news items in the local papers and in interesting non-technical editors in the refrigeration industry.

Other speakers on the afternoon program included H. T. Kessler, president of the Chicago Copeland Co.; A. C. Houser, M. W. Knight, and H. G. Anderson. A banquet closed the one-day meeting.

SALE OF G. E.'S MILLIONTH CELEBRATED WITH PICNICS

CLEVELAND—"On to the second millionth G. E. refrigerator," was the theme of a picnic and outing of the 250 employes held recently in Nela Park in celebration of the sale of the first million.

This outing, which was held simultaneously with more than 60 other picnics in the leading cities of the United States where distributors are located, served as a common ground for executives and employes alike.

After the conclusion of the day's program, every employe in the Cleveland offices had pledged the sale of one or more refrigerators, as his or her share toward selling the second million.

NORFOLK DISTRIBUTOR SEEKS TO DOUBLE QUOTA

NORFOLK, Va.—Having sold its entire year's quota for Metropolitan Norfolk during the first six months of the year, the R. F. Trant Co., Norfolk distributor for Frigidaire, has set out to double quota by the end of the year.

Launching its latest sales drive with 100 per cent dealer participation in the Frigidaire Jubilee campaign, the Trant organization sold more than $20,000 worth of Frigidaires in metropolitan Norfolk, during the first week in July. Equal success is reported for the entire Norfolk territory.

LONDON HOSPITAL USES FRIGIDAIRE UNITS

LONDON, Eng.—More than 50 Frigidaires are installed in various departments of the London Hospital to safeguard food and medical supplies.

Laboratories, diet kitchens, grocers' ward, and nurses' dining rooms have Frigidaire equipment, and a 20-lb. icemaker provides ice for beverages and packs for patients.

ADOPT FLAT WATER RATE

ST. LOUIS, Mo.—A flat water rate on the Electrolux gas refrigerator has been announced by the City of St. Louis, water division. This rate is $2.50 each six months according to R. C. Cope, supervisor of assessment section.

IDEAS AND IMPRESSIONS · COMMENT · VIEWS AND EXPERIENCES

By F. M. COCKRELL

Talking vs. Listening

The introductory paragraph of an editorial in *Printers' Ink*, July 30, reads:

"Too much attention to competition and not enough to product improvement is one of the troubles in many businesses today. Too much talking to distributors and not enough listening is another."

The lesson applies to salesmen as well as manufacturers.

Too many salesmen seem to think that selling consists entirely of *talking*.

Too often the salesman is unwilling to *listen* to his prospect long enough to find out what the prospect wants and how is the easiest way to sell him.

Many people will talk themselves into buying if the salesman is a good *listener*.

* * *

A Listening Doctor

An interesting confirmation of the "listening" theory applied to selling comes from a doctor.

A depression affects the doctor's business, you know, the same as it does other lines.

It seems that people either do not get sick so often, or they economize by bearing their aches and pains without seeking professional advice.

This doctor, however, has never been worried by depressions or slack times. He is always busy. He has a high reputation as a surgeon and is a top-notch diagnostician.

The doctor and his wife, friends of the family, dropped in the other evening for a non-professional visit. We left the wives talking flowers and music and retired where we could confab on business.

"Whenever I want new business," said the doctor, "all I have to do is go over to the hospital and listen to the doctors talk about their cases.

"Most doctors," he explained, "are so interested in their own cases that they do not pay much attention to the other fellow's problems.

"I *listen*," he said.

"Often I can make a suggestion—another place to look for the trouble, another test or examination, or a better way to operate.

"Right away the doctor wants me to come on the case as a consultant or to perform the operation for him.

"I pick up some nice fees that way," he added.

* * *

Ice Box Sales

The Badger Corrugating Co. of La-Crosse, Wis., inquires as follows:

"Please inform us by return mail, if possible, how present sales of ice refrigerators compare with the past few years.

"In your estimation, do you think that electric refrigeration will eliminate the ice box?

"If you do not have figures please inform us where this information can be secured."

The refrigerator manufacturers' association does not make public the figures collected from member companies but according to reliable information the total sales of ice boxes are declining.

Reports indicate that during 1931 the sales of ice boxes will be less than one-half the output during the peak years from 1923 to 1926 when sales exceeded a million units a year.

One executive points out that the loss in sales of ice boxes each year is approximately equivalent to the gain in the sales of electric refrigerators.

* * *

Trend to Electric

During the past year there has been a pronounced trend on the part of important ice box manufacturers toward entering the electric refrigeration business. Examples are:

Tennessee Furniture Co. of Chattanooga, Tenn., an old-established concern in the refrigerator field, has been marketing a complete electric unit on a small scale for two or three years and plans to enlarge its distribution considerably next year. Their machine is made by Sunbeam.

Gibson Refrigerator Co., Greenville, Mich., was one of the first of the old line ice box companies to announce an electric refrigerator although consolidations between manufacturers of automatic units and manufacturers of cabinets brought about close relations between certain companies as early as 1925. Gibson is making both machine and cabinet.

Gurney Refrigerator Co., of Fond du Lac, Wis., is now selling a complete electric refrigerator, using an electric unit made by the Sunbeam Mfg. Co. of Evansville, Ind.

Bohn Refrigerator Co. of St. Paul, Minn., another old established manufacturer of ice boxes is also selling electric refrigerators with a Sunbeam unit. Bohn distributes through factory branches.

The Leonard Refrigerator Co. of Grand Rapids, Mich., one of the largest producers of ice boxes, entered the field a few months ago with the Leonard electric refrigerator which is being sold mainly through department stores. The Leonard Co. is owned by Kelvinator Corp. and manufactures cabinets for Kelvinator. The Leonard machine is made in the Kelvinator plant in Detroit.

In contrast, the Seeger Refrigerator Co. of St. Paul, Minn., one of the leading makers of cabinets for the electric refrigeration trade, announced early this year that it had no intention of bringing out a mechanical unit and would continue to devote its entire attention to the cabinet business.

* * *

Convenient Order Blank

Frank D. McDonald, 50 West 106th St., New York City, writes:

"I have been considering subscription to this paper for some time. I am making this move only because your letter made it convenient for me to do so. It is my personal opinion that you can increase your circulation by this method."

Mr. McDonald refers to a letter with a subscription blank and a return envelope enclosed. Similar letters are mailed to hundreds of dealers whose names are furnished by manufacturers and distributors.

All of the large manufacturers cooperate in this way because they are anxious to have their new dealers, as well as old ones, become regular readers of the NEWS.

Most of them have also recommended the NEWS in letters and company publications.

* * *

Subscription Costs

About the time Mr. McDonald's letter came in, our business manager, George Congdon, compiled figures showing the detailed costs of the subscription department for the first six months of this year.

During this period 5,143 new and renewal subscriptions were received. The average cash revenue per subscription amounted to $1.78. (The subscription rate is $2.00 per year but reduced rates for group orders bring down the average.)

The cost of subscription promotion during the six months amounted to $5,869.52. This figure includes the production cost of sample copies, stationery, postage, etc., but does not include overhead expense such as rent and management.

The average cost of securing each subscription therefore amounted to $1.14 while the cost of entering the order and making the necessary office records averaged 78 cents or a total of $1.92.

The cost of addressing, wrapping and mailing the paper, including postage, runs about 98 cents per year for each subscriber.

The above operations total $2.90 per subscriber and do not include any of the cost of producing and printing the paper itself.

The figures indicate that it costs us $1.12 every time we get a new subscription, in addition to the obligation of delivering a copy of each issue.

But do not let that cause you to hesitate about ordering a subscription. *We want subscribers*, especially those who represent buying power or buying influence.

Of course, it is the *advertising* revenue that makes it possible for us to render this service to the industry.

The more subscribers, the more advertising, provided the additional circulation is of the proper character.

The subscription price is important because it is substantial evidence that the paper is desired and appreciated.

* * *

Friendly Customers

It is an undeniable fact that we seldom appreciate things which are given to us free of charge.

Another trait of human nature is that we do not like people because of what they do for us, but because of what we do for them.

That is why mothers love their children while children often fail to respect their parents.

Do a man a favor (loan him money, for instance) and you will always have a keen interest in him. You hope that he has good luck, that no ill befalls him. He may forget about you.

The natural tendency of customers is to like the dealer they have bought from. When a man buys an electric refrigerator from you he is all set to be your friend. Treat him right and he will go to a lot of trouble to help you sell some more refrigerators.

If you fail to treat him right he will be terribly disappointed and may become an active enemy.

Readers write us nice letters when they pay for their subscriptions. They have paid us money and want to be friendly.

If the order is not acknowledged promptly or if the paper fails to arrive regularly they are very much grieved, but they usually give us the benefit of the doubt. Perhaps the letter failed to reach us, they suggest, or some error has been made in interpreting the name or address.

Sometimes we get a nasty, critical sort of letter. We look up to see if the writer's subscription is paid. Usually it is not.

* * *

The Art of Giving

Some people are deluded with the idea that it is easy to give things away. On the contrary, it requires about as much intelligent thought as selling.

When I was a senior student at the University of Illinois I was appointed chairman of the annual Masonic Smoker.

The Fatima people were quite willing to donate cigarettes for such occasions and I made the necessary arrangements. But in my enthusiasm for the event I over-estimated the attendance by about three hundred. As a result, that many packages were left on my hands.

Not caring for Fatimas myself, I tried to give them away to other students. It was not difficult to hand out one cigarette at a time but I wanted to get rid of whole packages.

When I tried to give away packages, fellow students were suspicious. Thought they must be loaded, or wormy, or something.

The only way to get rid of those cigarettes, I concluded, was to have another smoker.

It seems that if you want to give away anything of value, which has not been requested by the recipient, you have to make a ceremony out of it. Giving is an art.

* * *

Hoodoo Party

Last summer my daughter, Helen, had a "hoodoo" party. She was 13 years old on Friday, June 13th. (Even the digits of 1930 totalled 13.)

Guest No. 13 was Topsy, black cat, who shared honors by being approximately one year old.

Topsy was selected from a batch of black kittens because of her intelligent expression and responsiveness to attention. She *out-purred* all the others.

Topsy soon developed into an accomplished hunter. She brought in field mice from all over the neighborhood.

One warm evening recently I sat in the back yard until near midnight when Topsy came up with a bird. I rescued the bird and kicked the cat.

The bird was unharmed, apparently a fledgling which had fallen out of the nest. It was too young to fly.

For over a week Helen kept it in a basket, fed it by hand, watched it grow and develop.

* * *

Flying Lessons

Last Sunday I decided to give the bird some flying lessons. After feeding it bread and milk for a while it became friendly and perched on my finger.

Raising it in the air and then lowering it quickly, the bird fluttered its wings but held on tightly. After riding the "elevator" several times it let loose and landed 10 or 15 feet away.

Soon it hopped back, accepted more food and we repeated the process.

Again it returned by the ground route, had a bite, perched on my finger, fluttered at each descent until it could summon courage to try the air.

After several performances the little fellow landed on a chair instead of the floor. He seemed quite proud of himself and spent some time fluttering his wings, stretching his legs and preening his feathers.

Then he gave me a surprise.

This time he *flew* back.

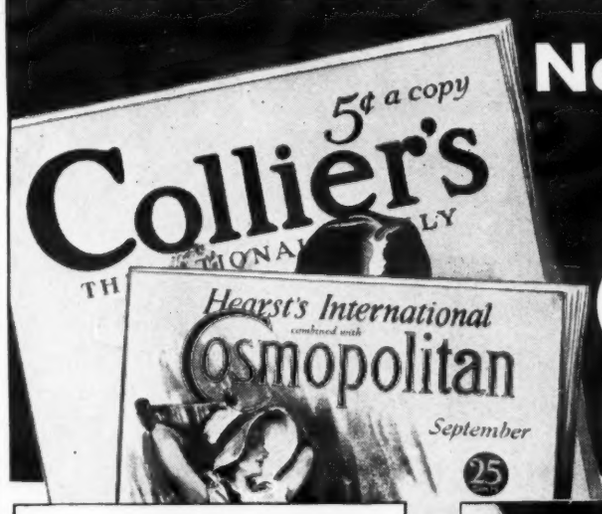
The next morning basket and bird were placed on the upstairs dust porch as usual. Very soon he took off to face the world on his own.

I have a feeling of confidence in that bird's success.

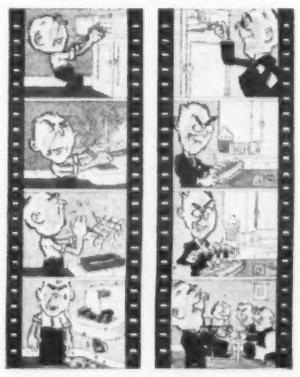
He was willing to try, willing to practice and improve his performance, willing to make his own living just as soon as he had tested his strength. And he will probably be very wary of cats in the future.

We Tell Them to Go to You—
Are You Ready for Them?

National Advertising on the New Easy-Out ALL METAL TWIN ICE TRAY is Now Appearing



MOVIES
of Two Men Getting Ice Out of Their Refrigerators



No Muss—No Fuss with the Easy-Out ALL-METAL TWIN ICE TRAY

Out Comes the Ice in a Jiffy Without Holding Under Water—Ice in the Newest Shape—BARS—20% to 30% Faster Freezing—Quicker Cooling of your Drinks

Ordinary ice trays are all wet! We mean that literally. And you're all wet after you use them. Why take a shower bath every time you want a piece of ice? Why hold the tray under the faucet and then have to do the same with the grid? Why waste a whole trayful of ice just to get one or two pieces?

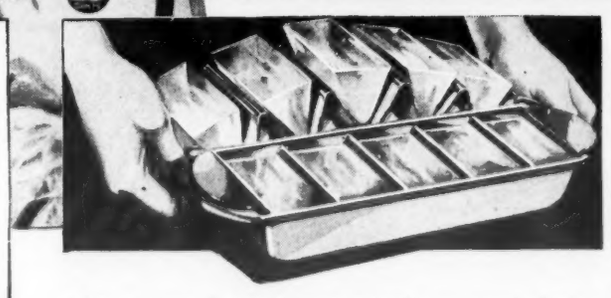
The Easy-Out gives you your ice in a new shape—ICE BARS. And you don't need hot water to get them out. The grid comes out of the tray in a jiffy and by twisting the grid, you free the ice bars without water. With the Easy-Out, you can take out one or two ICE BARS and leave the rest in the tray.

Ask your druggist, department store or electric refrigeration dealer for Easy-Outs—or if Easy-Outs have not yet arrived in your city, send us the size of the tray you are using and the make of your refrigerator and we'll send you as many trays as you need. Prices $2 and $2.50 per tray, depending on the size. We'll ship your order C. O. D.—you pay the postman, he'll pay us!

Send in your Order today to the Refrigeration Accessories Dept.

McCORD
RADIATOR & MFG. CO. . . . DETROIT, MICH.

Advertising like that above is appearing in Collier's Weekly and the Cosmopolitan Magazine. More than 6,000,000 readers will learn about the Easy-Out in August alone. In our advertising, we tell these readers to ask their nearest electric refrigeration dealer about Easy-Out Ice Trays. Will you be ready to supply this demand when they come in to buy?



Pressing down on the ends of the grid frees it from the tray. Then twisting the grid releases the ICE BARS. No holding under the water faucet. Get one or two pieces of ice without ruining a whole trayful.

All we can do is direct people to your door—it's up to you to sell them! And you can't sell these "drop-in" customers Easy-Outs if you haven't got a stock of trays.

Don't get us wrong. We don't mean that such customers are your only prospects. Think of how fast you can sell Easy-Outs as standard equipment on every new refrigerator you sell. Nobody will object to paying a few dollars more for Easy-Out convenience and Easy-Out novelty. And consider what a splendid item the Easy-Out would be for your service men to sell on every service call — to help pay some of your service expense.

Better send a dollar for a sample tray to-day. Tell us the size of the tray you are now using and the make of refrigerator. Only one to a dealer at this price—regular prices are $2 and $2.50 per tray depending on size—subject to 40% discount to dealers.

This attractive counter display is supplied free with every order for ten or more Easy-Outs. It provides a place for a tray that your customers can try and see how it works.

PERSONAL TRIAL TRAY FOR $1

We will send any electric refrigeration dealer a personal tray for him to try in his own refrigerator for $1. All orders for trial trays must be on the dealer's business stationery or purchase order.

McCORD
RADIATOR & MFG. CO.- DETROIT, MICH.

Little Stories of Interesting PEOPLE In the Refrigeration Industry

THE EXPANSION VALVE

Little Stories of Interesting IDEAS In the Refrigeration Industry

By George F. Taubeneck

Baron Munchausen?

That famous German soldier-adventurer, Baron Munchausen, who came across the pond with Lafayette and Kosciusko to help America win the Revolutionary War, is generally credited with being the most magnificent liar the world has ever seen. Too, there are those who put in claims for Ananias.

Personally, we have always held out for Paul Bunyan as a source of whoppers. Paul, you know, is the fellow who went prospecting one time and dug the Grand Canyon.

Another of his feats was the taming of Old Contrary river, which was so-called because it would run along for awhile a mile wide and a foot deep, and then it would turn over on its edge and run a mile deep and a foot wide.

Angered by such impudence, Paul wrestled with the river, and broke its back. The broken vertebra in its spinal column is now known as Niagara Falls.

Then there was the time Paul Bunyan got married. After the ceremony he picked his wife up and playfully tossed her up on the top of Pike's Peak. She didn't like it up there without Paul, so she jumped down. Those were the days of hoop skirts, however, and the springs in her skirt caused her to bounce a mile high when she hit the earth.

She bounced up and down for three days, and Paul finally had to shoot her to keep her from starving to death.

Paul was also a great runner. He invented the cinder track one time when he was running in Pennsylvania. So fast did he go around the track that he caught up with himself, and soon he was three deep going around the track.

His great speed caused the track to get terrifically hot, and ignited the beds of anthracite coal beneath his feet. The path on which he ran burned to cinders, and became the first cinder track.

The only race he ever lost was with a rifle bullet. Paul got off to a slow start, but before very long he caught up with the bullet, which lodged in his mouth. Just before Paul reached the finish line, a bee flew up his nose, and he sneezed, blowing the bullet across the line ahead of him.

* * *

A Whopper

Alongside Paul Bunyan, Ananias, and Baron Munchausen, we must now place W. P. Robinson of Swayne, Robinson & Co., farm implement dealers in Richmond, Ind. Mr. Robinson recently sent the following letter to the Frigidaire Corp. at Dayton, Ohio. The letter speaks for itself. (Note the complimentary close):

Gentlemen:

I refer to the wrecking, a few days ago, of a truckload of electric refrigerators at Hiser's Station, Ind., in which a hundred yards of fence were destroyed, the trolley wire of the T. H. I. & E. torn down, and the creek bottom filled with refrigerators.

A curious incident in connection with this accident, which occurred on a very hot day, was that when the truck driver returned with some men and members of the state police to remove the debris, he found that the trolley wire had established contact with the refrigerators and that Martindale Creek was frozen over for quite a piece below the bridge, in one place, the ice cubes piling up to the height of several feet.

My own attention was called to something very peculiar having happened when the worm I was fishing with some distance below in the stream got so chilled that it took a distinct effort to bend it.

Very truly,
W. P. Robinson.

* * *

Six Baseball Games

Following the life story of President E. G. Biechler of Frigidaire, presented in the last number of the "Expansion Valve," we are offering today a biography of Col. Frank E. Smith, president of Servel, Inc.

But before we start to tell you about the very interesting Col. Smith, we want to print a few of Mr. Biechler's words which were crowded out of his biography last issue.

"From the time I was a boy I have never had much time to play," declares Frigidaire's chief. "I just kept plugging along. Other salesmen out on the road would take two hours off to play pool or go to a ball game. I never did. I wanted to go, but I figured my job required all my time. I have not attended more than six baseball games in my whole life.

"The few times I have gone to a baseball game I found I couldn't keep my mind on it. I play golf about four times a year with the same degree of success. Some time I hope to be able to enjoy both. The exercise I get is just what comes in the course of the job.

"The man who is getting somewhere in a big organization will have no time for scheming or office politics. He will pay no attention to gossip or hearsay. The guiding executive of such an organization has scant patience with such trivialties.

"Just what constitutes the secret of progress I do not know. I feel, however, that nothing is difficult if you know your problem—if you know the how, when and why of the subject. I believe it is harder to discover exactly what the problem is than to solve it.

"We have only one problem. We have something to make and sell, and only two things to do—make and sell it."

* * *

Col. Frank E. Smith

In New York last week I found an interesting contrast of characters on the same day.

One was a minor executive who held the key to a story I wanted. The other was Col. Frank E. Smith, president of Servel, Inc. I called Col. Smith for an appointment first.

"Why, certainly," came an amiable voice from the other end of the wire. "Walk in any time you like. I'll fit you into my schedule somehow."

Calling the minor executive was altogether another story. He was extremely busy, but maybe I could call again next week? I couldn't. Very well, then, he would allot me two minutes at 11 o'clock.

Mr. Minor Executive was abrupt, impatient, condescending, and about as much help in getting the story as would have been the corner policeman. He finally delegated the task of producing information (which he himself could have given me in five minutes) to three subordinates—spending most of his time impressing me with his own importance.

Two hours later, the story obtained at last, I walked into the offices of Servel, Inc. Almost immediately I was taken to Colonel Smith.

He rose, smiled broadly, extended a hand and gripped mine firmly, and indicated a chair.

"How in the world," he asked sympathetically, "do you wear a vest on a day like this? Why don't you take it off, and your coat—at least while you're in here?"

And he produced a coat-hanger. He himself was in shirt sleeves.

After the crisp formality and condescension of the man I had just left Col. Smith's cordiality and friendly, human qualities were like a cool, refreshing breeze on a stifling midsummer night.

It was apparent that here was a Big Man. Cool, confident, poised, relaxed he gave little outward indication of the fire of energy which was burning within. *Control* is the word that fits him best.

He has a large office. Not much in it. In one corner is his desk. Not much on it. In another corner is a bookcase.

On one wall is a lithograph of a pre-war motor car. Opposite hangs an oil-painting of an Oriental sword-swallower (used effectively in Electrolux advertising).

Dignity is the keynote. The office resembles the man.

It was easy to interview Col. Smith. In contrast with the self-important individual I had previously visited, Col. Smith was not trying to appear the great man, nor was he attempting to utter words which would ring down through the centuries.

Answering questions simply, smilingly, he made me feel as if a tea table was between us rather than a desk, and that the scene was a terrace at his home rather than a hot Manhattan office.

* * *

A Steam Engine

After taking leave of Col. Smith, I talked for a few moments with one of his oldest associates.

"Tell me," I asked, "is Col. Smith a man of regular habits and regular hours, or does he work when the spirit moves him?"

"Hours?" snorted the associate. "Col. Smith hasn't any hours. He is the first one down here in the morning; nobody knows how early he arrives. And at night he is still working when the last man has knocked off and called it a day. Some time I'm going to stick around to find out just what hour he does leave at night.

"He supposedly rests on weekends. Doesn't come down Saturdays at all. But when he gets back Monday he has done so much thinking that we all must hump to catch up.

"That man can keep seven stenographers busy, all at the same time—to say nothing of the rest of us. He's the fastest dictator I've ever heard. Work rolls out of him like newspapers out of a high-speed press.

"He's a steam engine. That's just what he is, a steam engine."

* * *

An Irrepressible Boy

Frank Earling Smith was born November 26, 1877, in Providence, Rhode Island. His father (who died in 1902) was a successful oil refiner. From his father, an ardent sportsman and lover of driving horses, young Frank acquired a passion for sports and the outdoors.

In his youth, his vigor and his enthusiasm for sports found outlet in boating and the sea. He had a 30-foot catboat of his own, in which he spent every moment he could.

"I knew every rock in Narragansett bay," declares Col. Smith, "because I hit them all at some time or another."

At one time his yearning for the sea became so imperious that he ran away from home to join the navy.

A big fellow for his age, he expected to get into the service even though he was years too young.

Quick work on the part of his family robbed the U. S. Navy of a future admiral.

His mother, Annie Burr Smith (daughter of George Waterman and Mary Anna Cady of Providence, was a descendant of James (Cade) Cady of Eckington, Derbyshire, England, who came to Massachusetts in 1636.

From her the young Smith scion gained his poise, ease, dignity, and self-assurance.

* * *

Jack of Many Trades

At the age of 12 Frank Smith had been graduated from the Providence high school. Came then a period of study in many fields, of apprenticeships in many trades.

He was a plumber's helper in summer time. Also he labored as a machinist and an accountant. The manufacture of woolens he learned from A to Izzard.

In odd hours he took courses in drawing at the Rhode Island School of Design. Moreover, he studied accounting and business law at the Bryant and Stratton Business College.

For a time he studied at Brown university, but he was too eager to get out into the business world, and put to the test his varied experience, to stay long in the cloistered halls of learning.

In 1897 he obtained his first real position: clerk of the Rhode Island State House Commission. Using a design drawn up by the famous Stanford White, the commission erected the handsome marble Rhode Island State House at Providence.

From his grandfather, who had been the leading architect of Providence, youthful Frank Smith had learned to appreciate beauty in architecture. Hence the position with the commission gave him esthetic enjoyment as well as pride of accomplishment.

* * *

20-Year Old Executive

Some may have thought that young Smith was scattering his energies in those days, so many things was he seemingly dabbling in, and so many trades was he learning.

But he knew what he was doing, where he was going, and he wasn't dabbling. Each job he tackled was tackled hard. He studied these trades intensively. And he found out some of the reasons why the wheels went 'round.

In 1897, shortly after the completion of the Rhode Island State House, he was appointed shop superintendent for the Thomas Phillips Co. of Providence. From that day, which occurred while he was still 20, until this, he has been an executive.

At the Thomas Phillips Co. he superintended the manufacture of Whitehead torpedoes. Other things were built at this plant, too, most interesting of which were the brain-children of Nicola Tesla.

Tesla, inventor of the induction motor and other electrical devices, was a fascinating character, according to Col. Smith. The famed inventor invariably had on his hip a flask of brandy, from which he took a small sip every few minutes.

Tesla kept up this habit until he lost his stomach. Now he lives on oranges and milk.

* * *

Locomotives

After a year with the Thomas Phillips Co., 21-year-old Frank Smith joined the Rhode Island Locomotive Works organization in Providence. With this concern he stayed four years, becoming assistant general manager.

In 1902 he went to New York City to accept the job of efficiency engineer for the American Locomotive Co., which he had helped to organize in 1901. During the two years he held this office, he assisted in the standardizing of 10 plants situated along the Atlantic seaboard from Richmond, Virginia, to Montreal, Canada.

The Rogers & Cooke Works of Paterson, New Jersey, was operated by the American Locomotive Co. Officials of the latter organization decided that their Paterson plant needed some of the supervisory efficiency of their recently acquired Mr. Smith, and sent him down there in 1904 with the title of assistant general manager.

For five years he managed this plant. From the building of locomotives he turned to the building of automobiles (in which industry he was to spend many of the following years) when the American Locomotive Co. brought the Berliet car to the United States from France, its country of origin. Alco trucks and passenger automobiles were developed from this French model.

* * *

Automobile Engines

In 1909 the American and British Mfg. Co. of Bridgeport, Connecticut, wanted a new general manager.

They had heard about Frank Smith, and went to him with an attractive offer. He accepted, and for a year he supervised the manufacturing of projectiles and automobile engines.

Many of the early types of successful internal combustion engines were built under the direction of Mr. Smith at the Bridgeport factory. Among the most noted of these were the Thomas-Detroit (Chalmers-forty).

* * *

100-Acre Cornfield

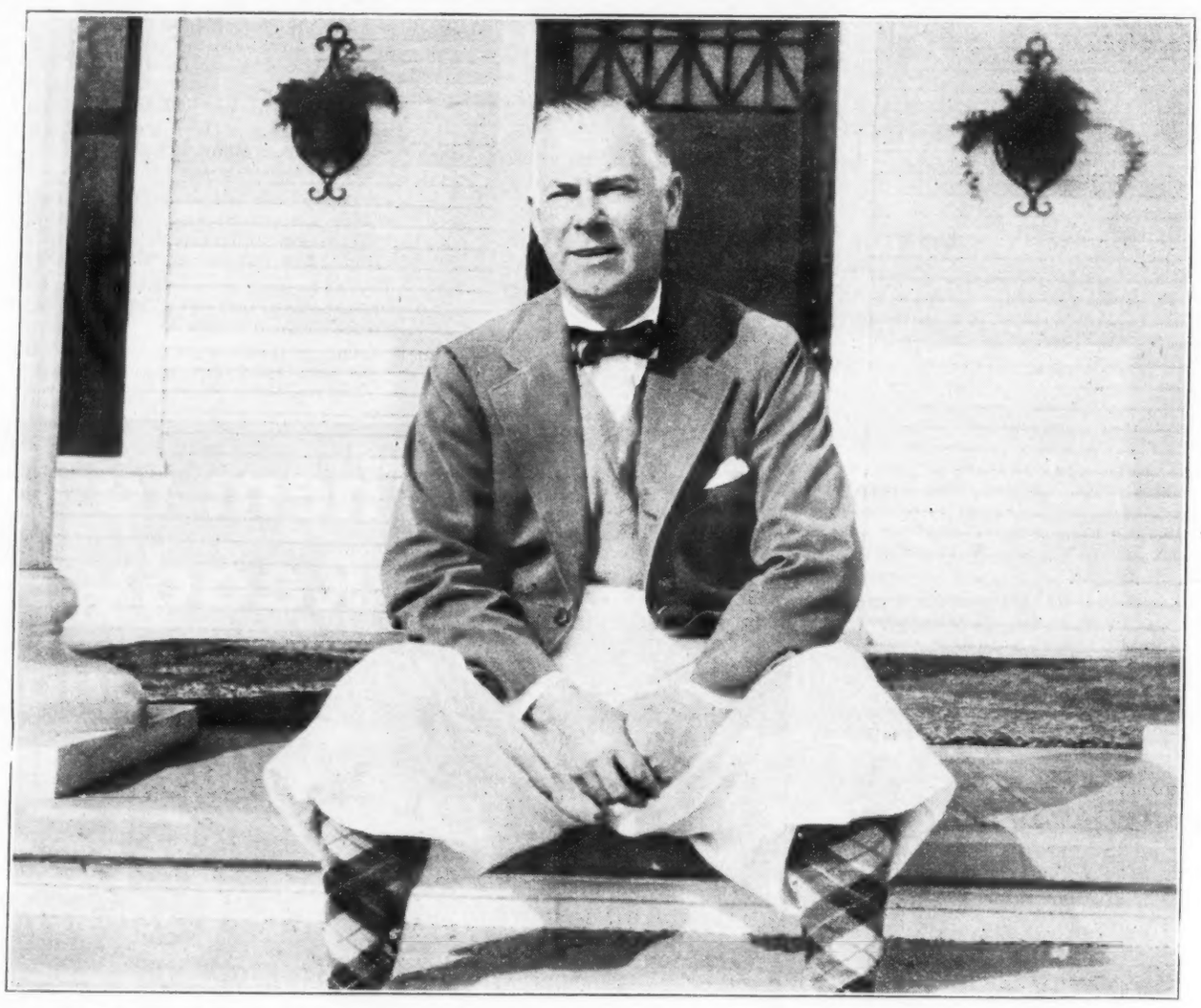
Perhaps the biggest job Frank Smith ever licked was the building, equipping, manning, and operating of the Maxwell-Briscoe Motor Co. at New Castle, Indiana.

When he arrived at New Castle late in 1910, he was shown a one hundred-acre cornfield.

"There you are," he was told. "We want the biggest and most

(Concluded on Page 19, Column 1)

Col. Smith Says, 'Good Morning!'



Col. Frank E. Smith, president of Servel, Inc., greets the new day on a porch of his home.

Little Stories of Interesting PEOPLE In the Refrigeration Industry

THE EXPANSION VALVE

Little Stories of Interesting IDEAS In the Refrigeration Industry

By George F. Taubeneck

(Concluded from Page 18, Column 5)

completely furnished automobile factory in the world to be built on this site. You have free rein to do what you wish. All we ask is results."

They got what they asked for, and under his guidance and management, this factory put out 19,500 Maxwell motor cars during the first year of its operation. In those days that was an astounding record.

During the period he was general manager of the Maxwell-Briscoe Motor Co., he was also vice president and general manager of the National Spring Co. of New Castle, which manufactured springs for automobiles.

* * *

Life Saver

Just after he had scored his remarkable production achievement with Maxwell-Briscoe came the first opportunity to test his ability in a role for which he has become best known: that of life saver for defunct or ailing comcompany.

The General Motors of that time was the United States Motors Co. of New York, of which Maxwell-Briscoe was a unit. The U. S. Motors organization became over-extended, and went into bankruptcy in 1912.

Mr. Smith, who had been running the most successful and profitable U. S. Motors unit, was named operating receiver and general manager for the company.

So well did he handle the job that when, in 1913, Indianapolis bankers foresaw the impending doom of the American Motors Corp. of that city, they sought Frank Smith in an effort to save it.

They moved too late, however, and following the bankruptcy, November, 1913, Mr. Smith was appointed trustee and general manager of the company.

He succeeded in reducing the company's liabilities, in selling the physical assets for 20 per cent more than the appraised value, and in realizing for creditors (who had expected less than eight cents on the dollar) approximately 18 cents on the dollar.

No sooner had he finished salvaging this wreck than he was given another to save. In October, 1914, the Premier Motor Mfg. Co. went into bankruptcy and he was named receiver by Federal Judge Anderson of Indianapolis.

The "life saver" reorganized and refinanced the company under the name of Premier Motor Corp., housed it in a new plant in Indianapolis, manufactured and marketed Premier automobiles.

Whereas the old Premier company had $500,000 of common and preferred stocks, the reorganized Premier Corp. had a capitalization of $1,000,000 preferred and $1,500,000 common stock.

In spite of an expensive fire, the new corporation made a comfortable profit under the first year of Smith management. Pleased financial backers took the corporation's affairs out of court.

During this period (1914-1917) the Premier aluminum motor with electric gear shift was introduced.

* * *

A Dollar a Year

When the United States entered the World War, Mr. Smith offered his services to the government without remuneration and became one of the famous "dollar-a-year men."

Serving during June, July, and August of 1917 as a member of the civilian staff of the Ordnance department in Washington, he was assigned to the special duty of finding facilities for the manufacture of shells.

In September he was delegated to the aviation finance division of the Civilian Signal Corps, and on November 3, 1917, he was enrolled in the commissioned personnel of the Aircraft Service with the rank of Captain, Signal Corps (RCAS) U. S. A.

* * *

Rapid Promotions

The following month, December 22 to be exact, he was commissioned a Major in the Signal Corps, United States Army.

August, 1918, saw him elevated to the rank of Lieutenant Colonel in the Air Service, United States Army.

He was honorably discharged in March, 1919, with the rank of Colonel of the Air Service Reserve Corps.

His duties during this rapid rise were many and varied. He aided in the organizaton of the Bureau of Aircraft Production in the latter part of 1917, and until after the conclusion of the war helped direct its work.

As assistant chief of the Finance division of the bureau he organized and directed its approvals department, its appraisals department, and finance field force. Further, he organized and was chairman of the finance division's rulings board and adjustment board.

Also he was a member of the Production Board's equipment division, and represented the Bureau of Aircraft Production in the War Department's interdepartmental cost conference.

As a member of the Board of Review of the Bureau of Aircraft Production he passed upon adjustments of all B. of A. P. contracts suspended or cancelled since the signing of the armistice, November 11, 1919.

His final task was the organizing and instructing of the field force for the liquidation and adjustment of aircraft contracts.

Subsequent to his army labors, he acted as special adviser to Gen. H. M. Lord, chief of Army Finance. The latter succeeded Gen. Charles G. Dawes as Budget Chief of the U. S. government during the administration of Warren G. Harding.

* * *

Financial Engineer

Capitalizing on his experience and record in the rehabilitation of decaying and defunct concerns, Col. Smith opened an office in New York in March, 1919, as an industrial engineer and financial counsellor.

Considerable business came his way during the next year and a half, for it was a period of post-war deflation, and many were the ailing institutions.

Soon his two titles became merged into one, "financial engineer," a sobriquet which stuck.

He specialized in automotive problems.

* * *

Republic Trucks

One of his clients, the Republic Motor Truck Co., finally preempted all of his time.

November 1, 1920, he moved to Alma, Michigan, to assume duties as director, first vice president, and general manager of the Republic Motor Truck Co. and the Republic Truck Sales Corp.

The former company also controlled the Torbensen Axle Co. of Cleveland.

On February 24, 1922, Col. Smith was elected president and general manager of both Republic companies, succeeding John N. Willys.

Under Col. Smith's direction, the Republic Truck Sales Corp. established factory branches in Saginaw, Detroit, Buffalo, Albany, New York City, Newark, Philadelphia, Baltimore, Charlotte, Tampa, Atlanta, St. Louis, Pittsburgh, Chicago, Milwaukee, Kansas City, Denver, San Francisco, Seattle, and Toronto.

* * *

Servel, Inc.

Shortly before Christmas of 1922, Col. Smith returned to his New York office and his practice of industrial engineering, which he continued five years.

Again an ailing corporation was entrusted to his hands and ultimately required all his time as chief executive.

This time (fall, 1927) it was the Servel Corp. which, through gross mismanagement, had come upon evil days. From August 4 to December 30, 1927, Col. Smith acted as receiver in various states for all Servel companies, and set about the task of reorganizing Servel and its subsidiary and affiliated companies.

He was elected president, director, and member of the executive committees of the new Servel, Inc., January 1, 1928.

Today he holds the same position with this firm, which manufactures and sells Servel Hermetic refrigerators, Electrolux gas refrigerators, Servel commercial refrigerating machines, Hercules gas engines, and Hercules truck bodies.

* * *

Off Duty

Jane Terres Etris, daughter of Franklin Pierce Etris of Philadelphia, journalist and author, became the wife of Col. Smith, May 19, 1919, at the Fifth Ave. Baptist Church in New York City. They now reside at Upland Knolls in Greenwich, Connecticut.

A number of clubs and societies claim Col. Smith as a member. Among these are the Engineers Club of New York, Mid-York Club, Columbia Club of Indianapolis, New York Athletic Club, Anglers Club of New York, American Geographic Society, Metropolitan Museum of Art, Indiana Society of Chicago, Society of Automotive Engineers, American Society of Refrigerating Engineers, Reserve Officers Association, National Aeronautical Association, Military Order of the World War, Veterans of Foreign Wars, American Legion, and New York Chamber of Commerce.

And we're not through yet. We haven't said a thing about his enjoyment of golf, or the survival of his boyhood passion for boating.

As evidence of his continued interest in the latter sport, he is an active member of the Great Captains Island Beach and Yacht Club.

Notwithstanding his prodigious capacity for work, his physical exuberance and vast energies find outlet in considerable golfing.

He belongs to the Evansville Country Club, Tamarack Country Club, Westchester Country Club, Green Meadow Country Club, and Greenwich Country Club.

Rex Cole and Hector

One man the Valve wanted to see in New York last week but didn't was Rex Cole, G. E. distributor. We did get a good picture of him, however. Hector is a champion Norwegian elkhound, and granddaddy of the official White House pup.

Toward a Million Miles

Another outlet for Col. Smith's energy is motoring. A decade ago he estimated that he had covered more than half a million miles by automobile. Now, although he has kept no tally, the figure is probably approaching a million.

At present he is driving a Stutz coupe which was speed-tested on the famous two-and-one-half-mile brick oval at Indianapolis. It will do 90 miles an hour.

Twice he has motored across the continent; once in a Maxwell, once in a Chalmers. On one of these runs he was at the head of a cavalcade of Indiana automobile manufacturers, who were blazing the trail for the Lincoln highway.

Colonel Smith was first president of the Indiana Automobile Manufacturers' Association, and served several terms in that capacity.

Most famous of all automobile races is the Memorial Day 500-mile Race conducted annually at Indianapolis.

In 1917 Col. Smith was pacemaker for this race. He drove a Premier car.

It was his task to lead the speedsters across the wire at a pace within a fraction of a second of 80 miles per hour. And then get out of the road!

* * *

The Three Graces

Some time ago we printed in the "Expansion Valve" a little impressionistic word-sketch of Col. Smith, which will serve as well as anything we can think of to put a period on this compressed biography. Here 'tis:

Col. Smith's mental stature seems more than commensurate with his massive head and frame. The things he says may be startling, but they are convincing.

Usually attached to his pointed statements are a few oral footnotes drawn from many years of executive experience.

Backed by these facts, he goes ahead to enlarge upon his thunderclap themes until one is pretty well convinced that Reason, Logic, and Actuality have at last joined hands and been transformed into the Three Graces.

En passant, it might be set down that perhaps the most pleasing feature of his conversation is the altogether delightful way he has of smiling unexpectedly with his eyes.

* * *

Col. Smith drives a long one.

* * *

William Reynolds

Another interesting man who works in the Servel, Inc. suite of offices at 51 East 42 St., New York City, is William Reynolds, advertising manager of Electrolux Refrigerator Sales, Inc.

Athletic, lean, he has gray hair parted in the middle, a spare frame, and a pair of unequivocal eyes which look at and through you as steadily as any I've ever seen.

In crisp, firm tones he speaks of the "peaceful penetration," or steady infiltration of Electrolux, talks about profits, declares that the industry is on the right track in its emphasizing of sales contests.

The latter, he believes, are fundamental. They stir up increased individual efforts, and an agglomeration of increased individual efforts will result in a grand total of higher sales volume.

Some of Mr. Reynold's "magician" ads (like the sword-swallower, and the old-fashioned prestidigator) are, we think, smart stuff.

* * *

Ginger Ale of Metals

A. J. Wildman of the International Nickel Co., New York, has some vivid expressions.

It is the business of this energetic young man to sell Monel metal to the refrigeration industry.

And in the course of preparing advertisements, sales promotion material, and actual selling talks, he has developed quite an interesting story.

Nickel, he says, is the ginger ale of metals. It is a good mixer.

When a quantity of nickel is mixed with any metal, four things happen, he observes. If sufficient nickel is added, it will:

1. Increase corrosion resistance.
2. Whiten the metal.
3. Make it stronger.
4. Make it more uniform.

Today nickel is mixed with structural steel, with wedding rings, and with varieties of metallic products all along the intervening range.

From one-half to two and one-half per cent of nickel is added to structural steel to secure increased strength and uniformity. That percentage is not high enough to increase corrosion resistance, however.

There is a whole series of copper-nickel alloys, Mr. Wildman points out, ranging from an alloy containing 12% nickel to Monel metal, which is 67% nickel. White gold is from 1% to 15% nickel, whence its white color, strength, and toughness.

Among the alloys which contain nickel (percentage of nickel is indicated in parentheses): electrical resistance chromium alloys (up to 85%), heat resistant chromium alloys (35 to 85%), coinage (25%), copper-nickel alloys (15 to 50%), nickel bronze (½ to 5%), nickel silver (10 to 30%), Monel metal (68%), aluminum alloys (2%), aluminum and zinc base die castings (½ to 5%), nickel manganese alloys (96%), nickel molybdenum iron alloys (60%) nickel-cobalt-titanium alloy (78%), white gold (15%), flesh colored golds (5 to 6%), green golds (1 to 2%), corrosion resistant cast irons (12 to 20%), chilled cast iron (4 to 5%), nickel cast iron (½ to 15%), heat resistant steels (7 to 35%), corrosion resistant steels (7 to 35%), nickel steel castings (1 to 4%), nickel steels (⅛ to 7%), highly magnetic alloys (45 to 80%), non-magnetic alloys (10 to 25%), and low expansion alloys (35 to 45%).

Ever wonder how Monel metal was developed? Listen, and you shall hear.

In Canada the mines of the Sudbury district contain copper and nickel in combination. One particular mine, the Creighton, yields an ore which contains, roughly, two parts of nickel to one of copper.

Three decades ago the world market for nickel was almost microscopic. Moreover, the task of separating the copper and the nickel from this ore was difficult. At last somebody began experimenting with this Creighton combination of copper and nickel.

The combination appeared to have possibilities, and in 1905 it was placed on the market. The new alloy was named in honor of Ambrose Monell, first president of International Nickel Co.

Nowadays the output of the Creighton mine cannot cope with the demand, and so Monel metal is fashioned by adding nickel to the ores of other Sudbury mines.

Sales of Monel metal are divided into three classes by officials of the International Nickel Co.: those cases in which the chemical properties of the alloy are most useful, those in which physical characteristics are paramount, and those in which appearance is the important factor. Sales to the refrigeration industry come under the latter heading.

One of the first commercial applications of electric refrigeration was the ice cream cabinet. From the birth of ice cream cabinets, Monel metal has been used on these jobs for appearance's sake, and today tons of the two-parts-nickel-to-one-of-copper alloy are used for that purpose yearly.

LITERATURE OF MANUFACTURERS

Catalogues, bulletins and other material recently issued.

Manufacturers are requested to send copies of new trade literature to Electric Refrigeration News.

Federal Counters

The Federal Refrigerator Co. of Milwaukee, Wis., is distributing a large folder demonstrating the appearance and specifications of the Federal counter for "the new type store, to face new competition in food selling."

The folder has illustrations of the new-design Federal counter, and of markets equipped with refrigerator display cases. A blue print and drawing board perspective of one of the Federal layouts is a feature.

Cleveland Tramrail

Applications of overhead tramrails furnished by the Cleveland Electric Tramrail Co., Cleveland, are illustrated in a recent folder entitled "Organized Experience." Transfer of material from building to building with a photo-electric cell controlled conveyor is one of the interesting operations pictured in the new promotion literature.

Heavy Duty Lathes

Details of heavy duty lathes and accessories for them are published in a 55-page booklet just received from the R. L. LaBlond Machine Tool Co. Selective speed geared headstocks, multiple disc clutches, beds, carriages, aprons, tailstocks and other equipment are portrayed, in addition to sliding bed lathes, turret lathes, and tool room lathes.

Requests for Information

Readers who can be of assistance in furnishing correct answers to inquiries, or who can supply additional information, are invited to address Electric Refrigeration News, mentioning query number.

Icing Units, Ice Boxes

Query No. 463—"Will you give us a complete list, or advise us where we can obtain a list of all manufacturings or icing units and ice boxes?"

Answer—See Buyer's Guide section of the Jan. 14, 1931, issue of the News.

Refrigeration Codes

Query No. 464—"Did Chicago adopt any code or regulation that would affect the installation of the different types of compressors and refrigerants? We are now compiling a list of states and municipalities having codes affecting manufacture of relief valves for use in ammonia or other refrigerants. Will you give us data on this line?"

Answer—See Dec. 31, 1930, issue of News, page 1, column 5, for Chicago code. For other codes, see following issues: Los Angeles—Jan. 14, 1931, page 1, column 4; American Standards Association Code—Nov. 19, 1930, page 10; Washington, D. C.—Oct. 8, 1930, page 1; Rochester, N. Y.—Mar. 26, 1930, page 7; New Haven, Conn.—May 21, 1930, page 1, page 12; Omaha, Nebr.— May 21, 1930, page 1, page 11; Atlanta, Ga.—April 23, 1930, page 4.

Refrigerator Specifications

Query No. 465—"Please advise as to date of Electric Refrigeration News issue which carried specifications and principal characteristics of all refrigerators on the market."

Answer—See Buyer's Guide section of Jan. 14, 1931, issue of News.

Refrigerator Manufacturers

Query No. 466—"I would appreciate a list of all manufacturers of household and commercial refrigerators."

Answer—See Buyer's Guide section of Jan. 14, 1931, issue of News. Other companies now manufacturing electric refrigerators, but not listed in the annual directory, are: All-American Mohawk Corp., North Tonawanda, N. Y.; Gibson Electric Refrigerator Corp., Greenville, Mich.; Tennessee Furniture Co., Chattanooga, Tenn.; Bohn Refrigerator Co., 1550 University Ave., St. Paul, Minn.; Sanitary Refrigerator Co., Fond-du Lac., Wis.; Uniflow Mfg. Co., Erie, Pa.

Query No. 467—"Please give us the manufacturers, with addresses, of Zerozone, Jack Frost, and White Mountain electric refrigerators."

Answer—Zerozone Corp., 939 E. 95th St., Chicago; Jack Frost Ice Machine Co., 349 Sorauren St., Toronto, Ont., Can.; White Mountain Freezer Co., Inc., Nashua, N. H.

Query No. 468—"We would appreciate your giving us the names and addresses of manufacturers of refrigerators for rural districts not serviced by electricity. What companies have a similar refrigerator to that of the Perfection Stove Co.?"

Answer—No refrigerator to our knowledge is quite similar to that of the Perfection Stove Co. • The Crosley Radio Corp. of Cincinnati, produces a Crosley Icy-Ball refrigerator adapted to use in communities without electricity.

Refrigerator Meters

Query No. 469—"In the July 1 issue of the News a picture appeared showing a metered electric refrigerator. Where, and by whom are these meters built?"

Answer—Meter Ice, Inc., 2842 W. Grand Blvd., Detroit, Mich.

Controls

Query No. 470—"What are the names and addresses of the Allen-Bradley and Penn control manufacturers?"

Answer—Allen-Bradley Co., 326 S. Second St., Milwaukee, Wis.; Penn Electric Switch Co., 306 12th St., Des Moines, Iowa.

Thermotainer

Query No. 471—"We have received an inquiry in connection with a product known as "Thermotainer" and have been informed that it is made in Minneapolis. Can you tell us what this product is, and by whom it is manufactured, so that we may intelligently answer our inquiry?"

Query No. 472—Will you kindly inform us if anyone else manufactures a gas refrigerator besides Electrolux? We also are interested in a refrigerator run by kerosene. Do you know the names of manufacturers?

Answer—At present, Electrolux is the only gas refrigerator on the market.

THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance — Positions Wanted — fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

REPLIES to advertisements with box numbers should be addressed to the box number in care of Electric Refrigeration News, 550 Maccabees Building, Detroit, Mich.

POSITIONS AVAILABLE

NATIONALLY known manufacturer increasing sales organization, will consider applications for position as District Sales Manager. Applicants must have at least two years experience in electric refrigeration in similar capacity or have been in charge of a distributor's refrigeration department and sales force. Outline of experience and full particulars must be given, which will be treated with strictest confidence. Box 354.

POSITIONS WANTED

ATTENTION DISTRIBUTORS — Can put your retail department on a paying basis. Nine years' successful operation as sales manager for leading companies. Can organize new sales force or build up your depleted force. Available August 15. Wire or write. Best of references furnished. Box 355.

REFRIGERATION expert, 14 years' experience in engineering and development work on domestic and commercial equipment, accessories and production methods. College graduate. References. Available for position as chief or consulting engineer to manufacturer in need of results. Box No. 347.

AM DESIROUS of making a sales connection with a high grade manufacturer, where the knowledge gained in my eight years' experience as sales manager with large distributors of electric refrigeration, can be put to use in solving manufacturer's merchandising problems. High grade references. Box 356.

BUSINESS OPPORTUNITY

BUSINESS OPPORTUNITY—We wish to sell outright, or in part, fully equipped manufacturing plant now operating and filling orders. We now manufacture a complete line of domestic and commercial compressor units which have been proven by four years marketing. In order to handle our 1932 volume, on a newly developed sealed domestic unit, we must organize completely within 60 days. Address Box 351, Electric Refrigeration News.

MISCELLANEOUS

SECOND and Greater INTERNATIONAL PATENT EXPOSITION, Merchandise Mart, September 14 to 27, Chicago, will be visited by 300,000 people including thousands of distributors, dealers, retailers and general salesmen. Booths or space available at the rate of $1 per square foot. Minimum space 30 feet. Opportunity is offered to business firms to have their display here or have their literature distributed. Very small cost. Send for folder. B. Hamilton Edison, Director, Merchandise Mart, Chicago.

Kerosene refrigerators are manufactured by Crosley Radio Corp., Cincinnati, Ohio, and Perfection Stove Co., Cleveland, Ohio.

Query No. 473—Can you tell us the name and address of the manufacturer who makes the Cold-Spot electric refrigerator for Sears, Roebuck Co.? We are also desirous of securing the distributorship for a medium-priced electric refrigerator in Metropolitan New York or Brooklyn.

Answer—The Cold-Spot electric refrigerator is manufactured by the Sunbeam Electric Manufacturing Co., Evansville, Ind.

Salesmen or Sales Agency wanted that are acquainted with the Manufacturing Refrigerator trade to sell our line of door Gaskets on a commission basis. Write for full particulars.
THERMWOOL PRODUCTS CO.,
360 Furman St.,
Brooklyn, N. Y.

To Help Dealers and Salesmen Sell Commercial Refrigeration

Use Refrigerated Food News To Stimulate Interest Of Commercial Prospects

Every concern selling commercial refrigeration is offered an effective sales promotional medium in Refrigerated Food News, to be published every month beginning September 1.

Salesmen will find it excellent literature to place in the hands of prospects. Copies may be purchased in bulk for distribution or will be mailed direct to prospects.

Refrigerated Food News (published for 16 months as the *Refrigerated Food Section* of Electric Refrigeration News) is designed for food producing, food selling and food service establishments.

Companies handling large quantities of food are eager to know about better methods for the production, transportation, distribution and retailing of foods and beverages.

Refrigerated Food News will point out a big opportunity in terms of "more profits through better refrigeration."

Proper temperatures — transportation, handling and display methods—suitable types of equipment—for the refrigeration of meats, fish, fruits, vegetables, ice cream, pastries, milk and butter, confections and every food product which requires refrigeration will be treated in Refrigerated Food News.

Among those to whom it will have special appeal are meat merchants, grocers, food wholesale and distributing organizations, chain stores, packers, ice cream manufacturers, dairies, confectioners and bakeries, hotel and restaurant owners, etc.

How To Use Refrigerated Food News

You—as a dealer or salesman—will benefit by seeing that Refrigerated Food News reaches *your* prospects for commercial equipment. It will bring to them the experiences of food merchants and food service establishments which have installed modern refrigeration equipment. It will tell how bigger profits have been made by using proper refrigeration methods.

Arrange now to see that your prospects receive Refrigerated Food News regularly. Provide your salesmen with copies for distribution or order the paper mailed direct to prospects.

Order for Refrigerated Food News

Refrigerated Food News,
550 Maccabees Bldg., Detroit, Mich.

☐ Please send Refrigerated Food News for .... months to names listed below.
(10c per single copy or $1.00 per year.)

☐ Check. ☐ P. O. Order. ☐ Cash enclosed.

Company .....
Attention of .....
Address .....
(Write additional names on separate sheet.)

Use This Section for Bulk Order to One Addres

☐Please send to address below .... copies of Refrigerated Food News for .... months. (10c per single copy or $1.00 per year.)

☐ Check. ☐ P. O. Order. ☐ Cash enclosed.

Name .....
Street .....
City and State .....

As a Premium . . . or a Sideline

PYREX REFRIGERATOR DISHES *bring in more business*

GIVE THEM to your customers as an added feature to your refrigerators . . . or place them on sale as profit-makers that require no effort to sell. Whatever you do—Pyrex Refrigerator Dishes are bound to bring in more business to your store. ● These dishes are made of Pyrex heat-resistant glass. May be used for baking, serving and refrigerating. "Stacked," they save refrigerator space. All women like them . . . know about their qualities through the national advertising of Pyrex Ovenware. ● Pyrex Refrigerator Dishes retail for as little as 85c each—set of four. $4.40. Get them from your distributor or write to Corning Glass Works, Corning, N. Y. Prices slightly higher in the West and Canada.

PYREX REFRIGERATOR DISHES Trade-mark "Pyrex" Reg. U. S. Pat. Off.

In Two Parts

Engineering Section

Part Two

ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office

The business newspaper of the refrigeration industry

ISSUED EVERY TWO WEEKS
VOL. 5, No. 25, SERIAL No. 127

Copyright, 1931, by Business News Pub. Co.

DETROIT, MICHIGAN, AUG. 12, 1931

Entered as second class matter Aug. 1, 1927, at Detroit, Mich.

FIFTEEN CENTS PER COPY
TWO DOLLARS PER YEAR

UNIFLOW FIRM IN PRODUCTION ON LECTRIK-ICE UNIT

Manufacturer of Pumps Speeds Output of Refrigerators

By John T. Schaefer

ERIE, Pa.—Three models of Lectrik-Ice household electric refrigerators are being made by the Uniflow Mfg. Co., a plant located on the outskirts of this town. This company is an old manufacturer of water softeners, Uniflow Klarifiers, and shallow and deep well pumps, and was practically equipped for refrigerator manufacture when that activity was started in a small way two years ago. About 30 machines daily is the present output of the plant, according to C. A. Kuebler, president. Line production has just begun.

Lectrik-Ice refrigerators have the condensing unit in a lower compartment, located high enough above the floor so that the housewife's broom can be wielded effectively. Cabinet tops are flat. The refrigerators are shipped complete, ready to be plugged into a wall outlet.

Bishop & Babcock Controls

Bishop & Babcock controls are used, providing a five-point temperature regulation. Sulphur dioxide is the refrigerant, cooling by direct expansion into the Uniflow-made evaporator of the copper coil design.

The condensing units are operated by a Delco motor, which also propels the fan to cool the Fedders condenser.

The compressor, a single cylinder, short-stroke, reciprocating type designed by Uniflow engineers, is cradled in rubber mountings. It is featured by the placement of the discharge port at the top so that when the piston is a top dead-center, it has forced practically all gas out of the cylinder, J. S. Bohn, engineer, points out. All parts of the machine run in a bath of oil.

Cabinets are furnished by Seeger, and the Niagara Refrigerator Co., Buffalo, where they are built to specifications of Uniflow engineers. Hardware is chromium-plated.

Double Liquid Receiver

The same compressor is used on all three models, the principal changes in condensing capacity in the large units being a double liquid-receiver and larger condenser.

Fabricated as a steel drum 2½ in. in diameter and about 15 in. long, the liquid receiver serves as part of the supporting framework for the condensing unit. The large units have a receiver along each end of the condensing unit structure, welded to it, while the small models have but one receiver drum.

The smallest refrigerator, model 452, has a shelf area of 9 sq. ft., produces 56 ice cubes, and has a food storage capacity of 4.5 cu. ft. It stands 56 in. high, 23 in. wide, and 20 in. deep. Two inches of Dry-Zero insulate the cabinet.

Model 552 has a shelf area of 10.5 sq. ft., makes 56 ice cubes, and has a food storage capacity of about 4.5 cu. ft. This unit is 58¾ in. high, 28½ in. wide,

(Concluded on Page 5, Column 1)

ELECTROLUX ANNOUNCES GAS RANGE COMBINATION

EVANSVILLE, Ind.—Announcement has been made of the approval of a Quality gas range, specially designed and built for use with the new Quaker Model EA-4A Electrolux refrigerator.

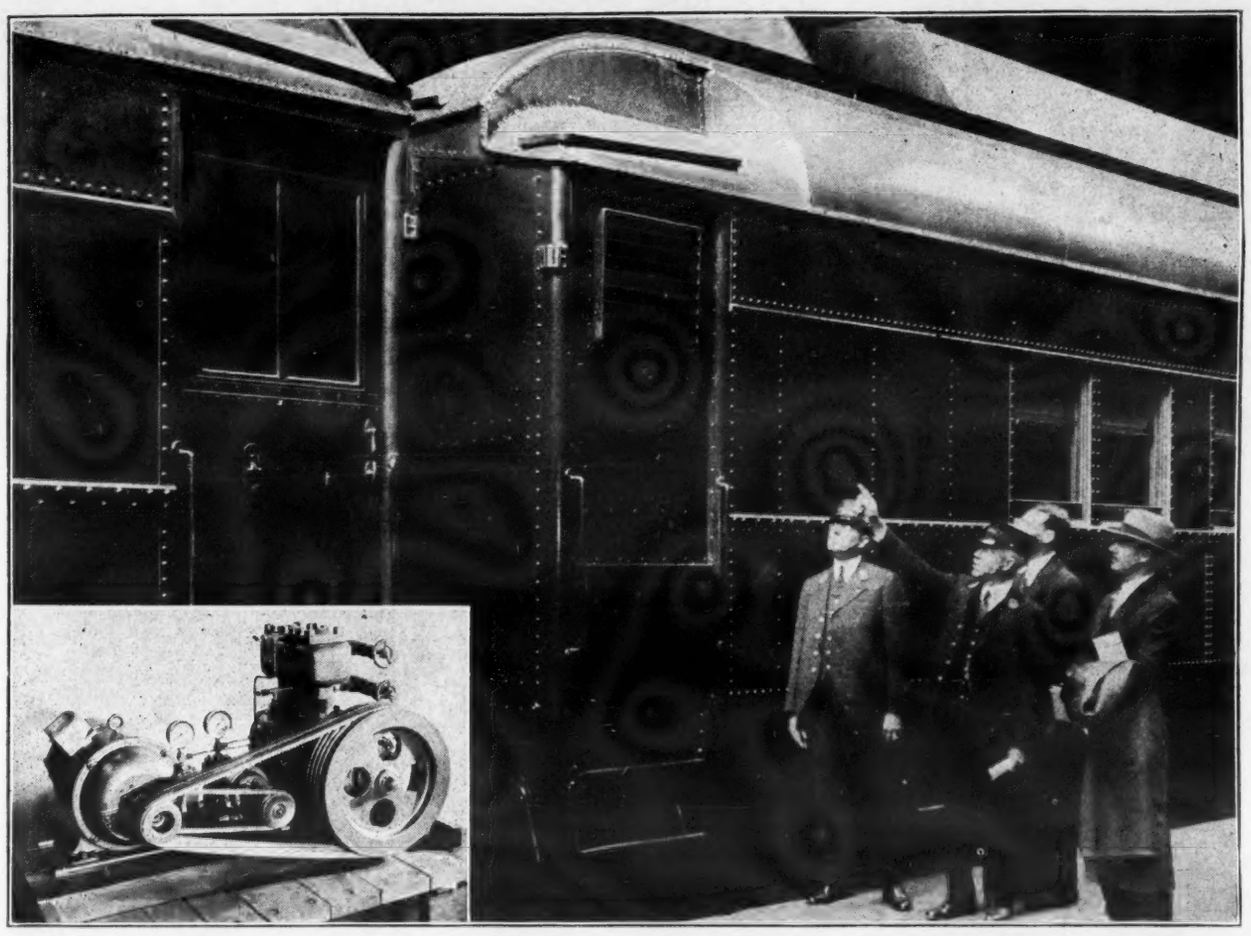
Refrigerator specifications are: height, 34 5-32 in.; width, 30⅛ in.; depth, 23 13-32 in.; food capacity 4 cu. ft.; shelf area, 6.5 sq. ft. This model contains four ice trays totalling 36 ice cubes, or 3.6 lbs. of ice.

This gas range, known as No. 312, is manufactured by the Roberts & Mander Stove Co. of Philadelphia.

PENN ELECTRIC SWITCH HAS DISTRIBUTOR IN BUFFALO

BUFFALO, N. Y.—The complete line of automatic controls manufactured by the Penn Electric Switch Co. will be handled by the Penn Electric Switch Distributing Co., at 755 Main St. here, newly appointed distributors, it was announced last week. S. R. Rente is manager of the new office.

Making Train Travel Comfortable



Newspaper reporters are shown the air conditioning system on the B. & O.'s crack train, "Columbian." An independent refrigerating machine, illustrated in the insert at lower left, is installed on each passenger car.

MAJOR REPAIRS MADE IN EDISON CO. SHOPS

By John T. Schaefer

CHICAGO—Providing service on the many household appliances—refrigerators, washing machines, radios, electric clocks, etc.—sold by a utility in a city ranging around the three million population mark is a big order, and the Commonwealth Edison Co., Kelvinator distributor here, has evolved a complete shop and field service set-up to give one-day service to its customers.

All service calls are handled in the Service Building at 22nd and Throop Sts., where T. C. Dick directs appliance service activities, including the maintenance of Kelvinator self-contained refrigerators, multiple apartment house installations, and commercial refrigeration equipment sold by the Commonwealth Edison Co. A total of 85 men are employed in appliance service.

Estimating and sales of refrigeration equipment are handled at the downtown office of the company, where Kelvinators are distributed, and General Electric and Frigidaire refrigerators are sold under dealership agreements. Don Wetherbee, refrigeration engineer, with headquarters in this office, estimates all apartment house and commercial installations.

One of the rules established for refrigerator service is that no repairs may be made in the field on a major assembly. Thus, if a compressor, cooling unit, condenser, receiver, or other assembly of several parts should develop

(Concluded on Page 12, Column 1)

Electrolux Develops Biological Cabinet For Doctors

NEW YORK CITY—Electrolux announces the addition of a biological cabinet to its line of refrigerators.

The new cabinet is designed to meet the requirements of druggists, doctors, hospitals and laboratories for the preservation of vaccines, serums, suppositories and other perishable biologicals. The trays and draws are perforated to insure proper air circulation.

They are designed to accommodate standard vaccine and serum packages and other biologicals which require a low even temperature for their preservation.

Electrolux biological cabinets are made in four, five, six and a half, eight, and ten cu. ft. capacities.

The new line of cabinets was introduced at the convention of the American Medical association, at Philadelphia, where it was received with considerable interest.

Oils For Refrigerators

Considerable help on the question of choosing proper oils for electric refrigerators is furnished in the articles on page four of this section, giving the views of three engineers on refrigeration lubrication.

COPELAND ANNOUNCES NEW ROOM COOLERS

MT. CLEMENS, Mich.—The new Copeland room cooler, introduced at the convention of distributors held here July 29, consists of a cross fin coil mounted in an aluminum trimmed metal housing, behind which operates a specially designed exhaust type electric fan. The cooler operates from a standard Copeland 1-X condensing unit.

The cooler is designed for mounting on the walls of a room, Copeland engineers showed, while the condensing unit may be installed in any nearby location.

Each cooler, with a capacity for dehumidifying and cooling 5,000 cu. ft. of air, or of furnishing 2,500 lbs. of refrigeration every 24 hours, has an air delivery of 600 cu. ft. per minute. It may be attached to the wall of any room.

The unit is 20 in. wide, 22¼ in. high, and 22¼ in. deep, and weighs 95 lbs. The price of the complete outfit is $575, with installation and financing charges extra.

Fins for the cooler aré of the continuous type, so arranged as to carry condensed moisture directly to the removable drip pan at the bottom of the unit. From the pan, water flows into the sewer through copper tubing. A series of adjustable deflecting blades are at the front of the unit, to enable the directing of air currents to any portion of the room.

Before the convention, four of the room coolers were installed in the serv-

(Concluded on Page 3, Column 2)

SECOND B. & O. TRAIN COOLED BY YORK EQUIPMENT

Generators Powered By Internal Combustion Engines

NEW YORK CITY—Announcement of the second completely air conditioned train following on the heels of the first, the "Columbian Limited" crack express of the Baltimore and Ohio Railroad running on a daily schedule between New York and Washington, has been made by B. & O. officials.

The equipment was specially developed for railroad service by the York Ice Machinery Co., York, Pa.

The equipment is being used on dining and parlor cars as well as on individual coaches.

By using an internal combustion engine to drive a generator for electric power for refrigeration, the air conditioning equipment will "pre-cool" the car before a trip, operate regardless of the speed of the train, and keep the air properly conditioned after the train reaches its terminal.

Cools, Humidifies Air

The air in the interior is cooled, purified and dehumidified; and finally is gently circulated to eliminate fresh air draughts.

Closed windows not only shut out smoke, dust, cinders, and carbon fumes, but incidentally reduce outside noises. Each coach is separately equipped with its own air conditioning unit.

After many experiments, the engineers of the Baltimore and Ohio concluded that it was necessary to air condition the entire train so that a passenger might find the same healthful atmosphere whether sitting in the club car, reading in a compartment, or taking lunch in the dining car.

The requisite source of power was eventually determined in the use of an internal combustion engine. This engine fulfilled the "independent power" requirements, making a separate unit for each car. An engine generator developing 10 K. W. of current was chosen.

(Concluded on Page 2, Column 1)

MAJESTIC DISTRIBUTOR DEVELOPS WATER COOLER

PITTSBURGH—Hamburg Bros., Majestic distributors for western Pennsylvania, have developed a "Coldrink" water cooler to be placed inside a household refrigerator, either electric or ice.

The cooler consists of a five-quart rectangular chamber, made of Armco steel and given three coats of white porcelain, inside and out, in the metal working plant owned by the Hamburg brothers, in Sebring, Ohio.

The lid fits over the top of the container so as to prevent water from becoming flavored by foods in the refrigerator, E. A. Hamburg, president, claims.

Water is drawn from the cooler by lowering a faucet device which extends beyond the refrigerator shelves, automatically opening a water valve. When a glass is filled, the water flow is stopped by the consumer pushing the faucet back to its normal position. The faucet, for which patent has been applied, is chromium plated. Joseph Harr is the designer of the "Coldrink" unit.

The best place for the cooler is on the refrigerator shelf alongside the evaporator, Mr. Hamburg points out, although it will also fit on the other shelves. Refilling is accomplished by lifting the cover, and holding the container under a city water tap.

Mr. Hamburg plans to distribute the cooler through refrigeration dealers as a refrigerator accessory. Its retail price is $4.50.

SEEGER REFRIGERATOR CO. WORKING 24 HOURS DAILY

ST. PAUL, Minn.—Seeger Refrigerator Co. is working its plant 24 hours per day—three shifts working eight hours each, are employed.

The company has enough orders to keep the plant busy, day and night, until September.

Dry-Ice Corp. Designs Device To Furnish Carbonic Gas For Beverages From Solid CO_2

By Elston D. Herron

NEW YORK CITY—Executives of the Dry-Ice Corp. here are making final preparations to embark upon an entirely new business venture—that of supplying bottlers, beverage dispensers, and other users of carbonic gas with steel liquefiers in which Dry-Ice will be converted into carbonic gas and liquid, and for use also in carbon dioxide refrigerating machines.

According to Mr. Cusack, the Dry-Ice Corp. will have constructed several thousand metal pressure containers or liquefiers which will convert solid carbon dioxide into liquid carbonic gas. These liquefiers will be so designed that carbonic gas may be drawn from the top of the device, or liquid carbon dioxide from the bottom.

Officials say that the cost of this material to fountain operators, bottlers, and other users will be considerably less than the price now paid for liquid carbon dioxide.

The Dry-Ice Corp. has been free to enter this new field since three weeks ago, when a contract with the Liquid Carbonic Corp., in effect for approximately three years, was terminated.

This contract was entered into, according to G. C. Cusack, sales manager, when the Dry-Ice Corp. was securing the major part of its supply of carbon dioxide from the other company.

Each of the liquefiers will be sold to fountain operators, bottlers, and carbon dioxide refrigerating machine operators for approximately $100, and each will have a capacity of 150 lbs. of Dry-Ice, to be delivered in 50-lb. cakes by Dry-Ice branches for approximately five cents per lb.

Both the price of the liquefying apparatus and the price of the Dry-Ice supplied will vary somewhat, depending upon the location, volume used, etc.

"Previous to this time, beverage dispensers have been paying as much as 22 cents per lb. for liquid carbon dioxide delivered in commercial carbon dioxide drums," says Mr. Cusack.

Use of the new containers will eliminate the necessity for constantly replacing and hauling about heavy steel cylinders used in the transportation and storage of carbonic gas and liquid, officials of the Dry-Ice Corp. went on to explain.

Sizes of the new liquefiers will vary, and representatives of the corporation will advise users as to the proper size and number of units to be chosen for specific locations and needs.

The establishment of three carbonic

(Concluded on Page 3, Column 1)

York Air Conditioning Equipment Cools Second B. & O. Train

(Concluded from Page 1, Column 5)

After its reliability had been demonstrated, this type of engine was made standard equipment for all cars.

The Baltimore and Ohio engineers were convinced that final installation of a railroad air conditioning plant demanded specially designed equipment for each unit. They called upon the York Ice Machinery Corp., York, Pa., to develop the special equipment.

The air conditioning plant for railroad passenger service had necessarily to meet exacting specifications. B. & O. engineers decided that the equipment should be compact in size, light in weight, noiseless and vibrationless, yet rugged enough to withstand the constant strain of railroad service.

The essential parts of the railroad air conditioning system are a compressor for compressing the gas; a condenser for liquefying the gas; a cooling tower providing a constant supply of cold water for the condenser and a unit for cooling a secondary liquid, which in turn is passed through the air conditioning system for lowerng the temperature of the air, according to Mr. I. C. Baker, director of the air conditioning division of the York Ice Machinery Co.

The space requirements of railroad equipment made necessary the smallest compressor the York corporation has developed. It is of new design and is installed with the motor on a structural steel base beneath the car. A V-belt is employed for the drive.

Its operation is almost noiseless. The steel base also accommodates the cooling tower circulating pump, safety devices, and gas gauges. Though smaller in size, the compressor is not unlike the average battery box and is covered with a small steel box.

To meet the safety requirements, the refrigerant condenser was developed along the lines of those generally used for high pressure gases, and like the compressor unit takes up little space. On the recommendation of the air conditioning engineers no refrigerant receiver was employed.

Being entirely free from nozzles, the cooling tower's water distributing system is specially designed for railroad service and is of the forced draught type. Mounted on the compressor base and deriving its power from the compressor motor, a pump forces the cooling liquid into circulation through the condenser and cooling tower.

An electrically driven cooling liquid pump under the coach forces a neutral liquid through the liquid cooler and special cooling coils in the air conditioning unit.

The entire refrigerating and air conditioning system requires approximately 6 hp. for its operation under all conditions, and this new development in railroad service is made available at the low cost of 20 cents per day per passenger.

The air conditioning unit is installed above the vestibule in each car. Here the air is cleansed, cooled, and dehumidified ridding it of all objectionable dust, cinders, carbon fumes, etc., and reduced to the proper temperature.

In each car temperature is automatically controlled. When prepared for use, the air is delivered through a system of ducts and grilles under the roof of the coach. While making draughts impossible by "car length" inlet distribution, the cooled air, being heavier than the warm air of the car, gradually and uniformly descends in volume sufficient to make 30 complete changes per hour.

"We are now experimenting with air conditioning equipment for ocean liners," said Mr. I. C. Baker, in a recent interview. "It will not be long before office buildings, homes, and ships will all be air conditioned making man independent of weather conditions whether he be working indoors or travelling."

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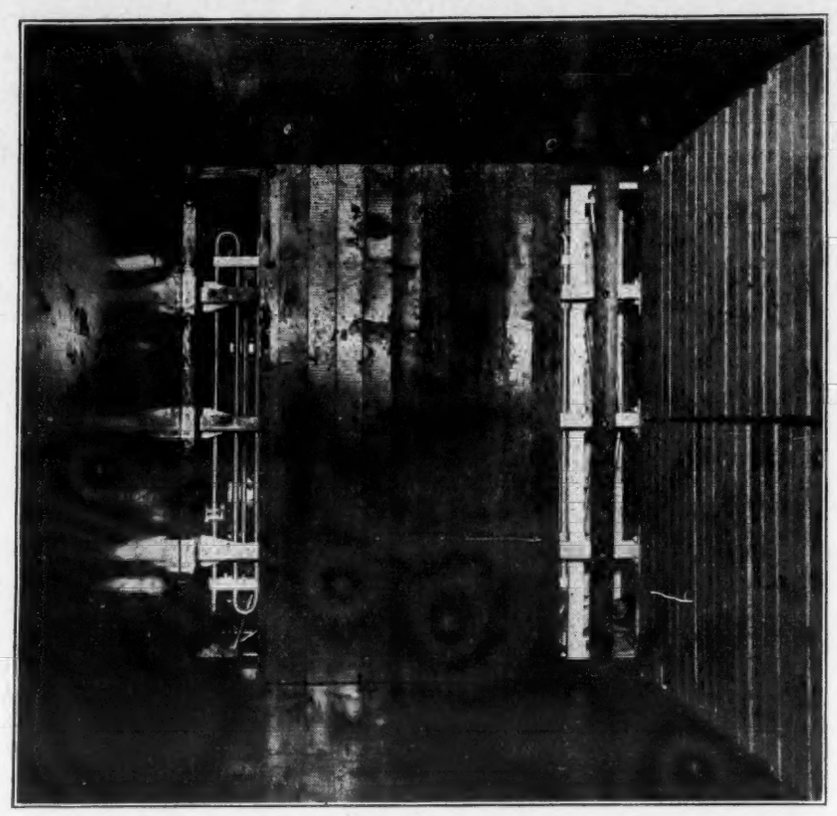

North American Car Co. places cooling units in freight cars.

NORTH AMERICAN CO. FREIGHT CARS COOLED BY MECHANICAL UNIT

CHICAGO—Mechanically refrigerated freight cars have been developed by the North American Car Corp., and have been used successfully in the transportation of fresh meats, frozen poultry, celery, oranges, and other foods.

This company is an owner and operator of refrigerator, live poultry, and tank cars. It built its first mechanically refrigerated freight car in 1926, and is now completing an order of 50 for the service of George A. Hormel and Co., meat packers of Austin, Minn.

Temperatures as low as 15° F. can be maintained in the cars, engineers of the company claim. A Baker ammonia compressor is used for refrigeration, driven from the axle of the car. A chain drive from the car axle is used, with the driven sprocket mounted on a shock absorber to take up train shocks.

Condensers are mounted on the roof, and are air cooled.

Brine tanks are carried in each end of the car with ammonia coils inside. The brine is frozen while the compressor is in motion, and acts as a reserve of refrigeration when the car is stopped at division points or in transit. Sufficient brine is carried to give several days refrigeration.

A motor which is idle when the car is in motion may be engaged to the compressor, and started with a plug for precooling or holding temperatures when the car has reached its destination. The motor works on either a 220 or 440 volt a. c. line. On pulling out the plug, the compressor is automatically reengaged with the axle.

Ammonia expansion coils are placed around the brine tanks as well as inside, in order directly to cool the car. A liquid ammonia receiver is carried underneath the car.

The temperature of the car is controlled by a thermostatic control valve hung from the ceiling at the center of the car.

The refrigerating unit is installed in an ordinary refrigerator car of the bunker or brine tank type, and utilizes the same space, all the refrigerating apparatus being placed behind the bulkheads. North American refrigerator cars use insulation of celotex, balsam wool and hair felt.

The refrigerating unit is manufactured under the Luhr patents; E. D. Brigham, Jr., vice president, in charge of mechanical equipment, has been responsible for design and development.

The equipment is built, assembled, and installed at the company shops in Blue Island, Ill.

N.E.M.A., A.S.A. MEN WORKING ON REFRIGERATOR TEST CODE

NEW YORK CITY—A standardized test code for electric refrigerators is being formulated by the section committee on standardization of domestic refrigerators of the American Standards Association, in cooperation with the refrigeration section of the National Electrical Manufacturers Association.

Findings of the technical committee of the N. E. M. A., headed by H. M. Williams of Frigidaire Corp., in developmental tests being made in manufacturers' laboratories will be used by the A. S. A. committee, according to Charles H. Roe, chairman.

SURVEY SHOWS MICHIGAN FARMS 16.3% ELECTRIFIED

ANN ARBOR, Mich.—Results of a survey by counties of Michigan farms having electric light and power service recently completed by the statistical research department of the National Electric Light Association are announced by the Utilities Information Bureau of Michigan. The survey is based upon United States census data and upon reports from Michigan utilities.

The survey, made as of Aug. 31, 1930, shows that upon that date Michigan had 27,677 farms with electric service, out of a total of 169,915 farms in the state. Seventy-eight counties out of a total of 83 reported electrified farms, and only five reported no farms with electric service. These five are Alcona, Iosco, Keweenaw, Montmorency, and Oscoda.

In percentage of farms electrified, the leading counties rank as follows: Macomb, 80.2 per cent; Washtenaw, 55.3; Wayne, 52.1; Dickinson, 50.4; Monroe, 47.1; Oakland, 41.3; St. Clair, 37.4; Iron, 37.2; Ottawa, 35.9; Delta, 35.1.

While farm electrification has advanced particularly rapidly among the southeastern counties, it is interesting to note that three Upper Peninsula counties, Dickinson, Delta, and Iron, are among the 10 leaders as regards the percentage of farms with electric power.

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These two sheets are coated with Prime Spelter (Zinc) by a Heat-Treating Process which fuses the coating with the base metal. The zinc is so firmly a part of the base metal that the coating is not injured in any way under severe formations, or when subjected to conditions producing condensation.

These two sheets have been on the market in a commercial way for the past five years, during which period actual usage has demonstrated their meritorious qualities.

The makers solicit your inquiries for attention in accordance with your wishes.

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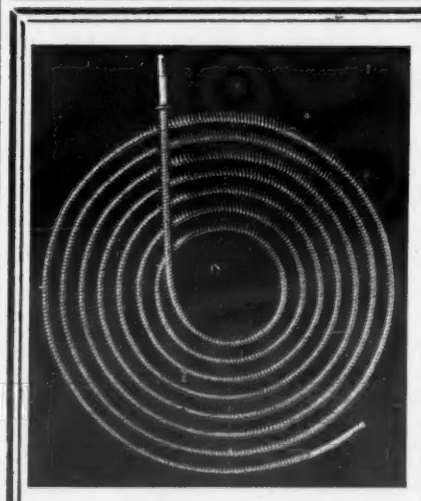

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DRY-ICE COMPLETING EXPANSION PROGRAM

(Concluded from Page 1, Column 4)

gas plants, first at Elizabeth, N. J., in 1928; second at Niagara Falls in 1929; and third at Peoria, Ill., in 1930, have enabled the firm to become independent of the sources of supply upon which it relied before constructing these new plants.

The Niagara plant is, say officials, the largest carbon dioxide plant in the world, as its output is 120 tons per day.

Solid carbon dioxide cakes are produced at these four plants and are shipped in special railroad cars, each with a 30-ton capacity, to the company's 29 distributing branches, from which point they are carried by trucks to consumers.

The storing and distributing branches are: New York City; New Haven, Conn.; Boston; Albany, N. Y.; Syracuse, N. Y.; Rochester, N. Y.; Buffalo; Philadelphia; Baltimore; Atlanta, Ga.; Jacksonville, Fla.; Pittsburgh; Cincinnati; Louisville, Ky.; Cleveland; Detroit; Toledo, Ohio; Milwaukee; Minneapolis; Lincoln, Nebr.; St. Joseph, Mo.; Wichita, Kan.; Oklahoma City; Kansas City, Mo.; St. Louis; Memphis; and Denver.

The carbon dioxide gas may be generated or produced from several different sources. The best source in any location is always determined by the economic factors involved. Carbon dioxide gas is now commercially produced from fermentation processes, production of synthetic alcohol, burning coke.

The method of producing solid carbon dioxide by the coke process in a plant such as that operated by the Dry-Ice Corp. of America at Elizabeth, is as follows:

Coke is burned in large furnaces. The carbon of the coke unites with the oxygen of the air, and the flue gas contains approximately 17 per cent of carbon dioxide. The remaining 83 per cent is largely nitrogen.

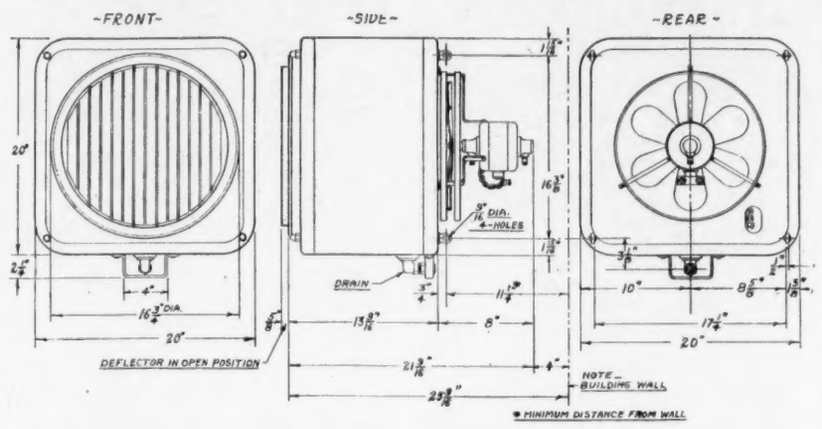
The flue gas is then washed, or scrubbed, by water, and then passes into an absorbing tower, where an absorbent solution flows counter-current to the flow of gas.

This solution has the ability to absorb carbon dioxide from the flue gas. The substance is then heated and carbon dioxide is given off, to pass through a purifying apparatus, from which it is piped to compressors, where it is subjected to a pressure of 1,000 lbs. per sq. in.

After passing through the compressors, the carbonic gas is carried to a condenser, where it becomes a liquid. The liquid carbon dioxide is then piped to solidifying machines.

The Dry-Ice Corp. has constructed regenerators, each with a capacity of 6,000,000 lbs., at Elizabeth and Peoria, to store solid carbon dioxide manufactured during the spring for shipment during the season of heaviest demand.

Details of Copeland Room Cooler



Drawing of unit cooler just introduced by Copeland

* * *

COPELAND OFFERS ROOM AIR CONDITIONING UNITS

(Concluded from Page 1, Column 4)

ice school room of the Copeland plant here. The room's total floor area is 1,928 sq. ft., and its total dimensions, 25,064 cu. ft. One wall is of brick, the others of light frame construction.

The roof is of frame construction, covered with tar paper. Approximately one-third of the roof area is of glass skylight, and approximately one-half of the outside wall is given to window space.

All of the four room coolers were turned on at 8:30 o'clock that morning. At 9 o'clock, the temperature in the room was 63° F., according to W. D. McElhinny, vice president in charge of sales. At 10:30 o'clock, the meeting was called to order, with 100 persons in the room, and approximately that number was in the room during the entire day's meeting.

At 1 o'clock in the afternoon, the temperature outside the building was 103° F., it was 101° F. inside the main plant, and 107° F. in the engineering room, next to the convention room. Yet at no time was the temperature in the latter room more than 80° F.

Mr. McElhinny states that the total cost of water and electricity for operating the four units from 8:30 a. m. until 5:50 p. m. was $1.43. During the meeting, 128 lbs. of water were taken from the air, or approximately 20 gallons.

KELVINATOR WATER SYSTEM INSTALLED AT COLLEGE

ANN ARBOR, Mich.—The new Legal Research building, latest of the group of structures at Michigan university, was recently equipped by the Detroit Kelvinator branch with a circulating water system.

The equipment consists of five fountains, cooled by 2000 CR Temprite circulating unit located in basement of the building, hooked up to a special Kelvinator compressor.

Other units are two No. 3 equalizing tanks; one No. 4 G-7 Westco pump; special 4-inch foundation cork base inclosed in concrete, 1 and 2 special thermometers.

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The No. 682 Arco Solenoid Valve is a compact magnet valve which controls the flow of cooling water to the condenser. It can be operated either by temperature or pressure control, or wired parallel to the compressor motor—opening when the motor starts and closing *tight* when the motor stops. The plunger and seat are non-corrosive. Coil insulated against "sweating." Ample capacity for any normal requirement. Connections are ⅜" pipe size. Can be furnished for any current and for water pressure up to 200 lbs.

This valve is listed as standard by the Underwriters' Laboratories, Inc. Large production makes possible moderate prices. Write today for full description of this valve and Mercoid Controls for all Refrigerating needs.

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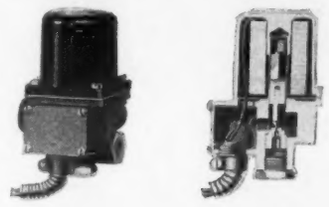

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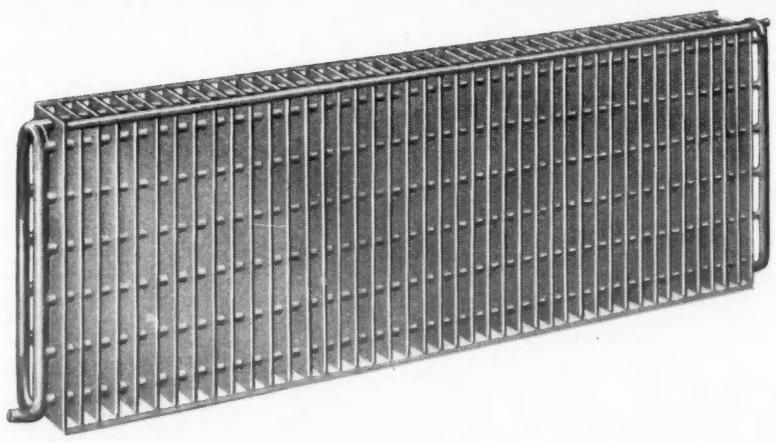

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Gas travel is reduced by the header type construction so that faster better refrigeration is produced. Humidity control is certain. Can be used for high or low temperature work with all non-corrosive refrigerants such as ammonia, butane, carbon dioxide, ethane, ethyl chloride, freezol, methyl chloride, propane and the new refrigerant, F12, recently developed by E. I. du Pont de Nemours and Co.

Reliance Coils are made of Shelby Seamless Steel Tubing. A special method of construction gives a real metal to metal contact between fins and tubes. After complete assembly fins and tubes are hot galvanized. Easily and quickly installed with less labor and material expense.

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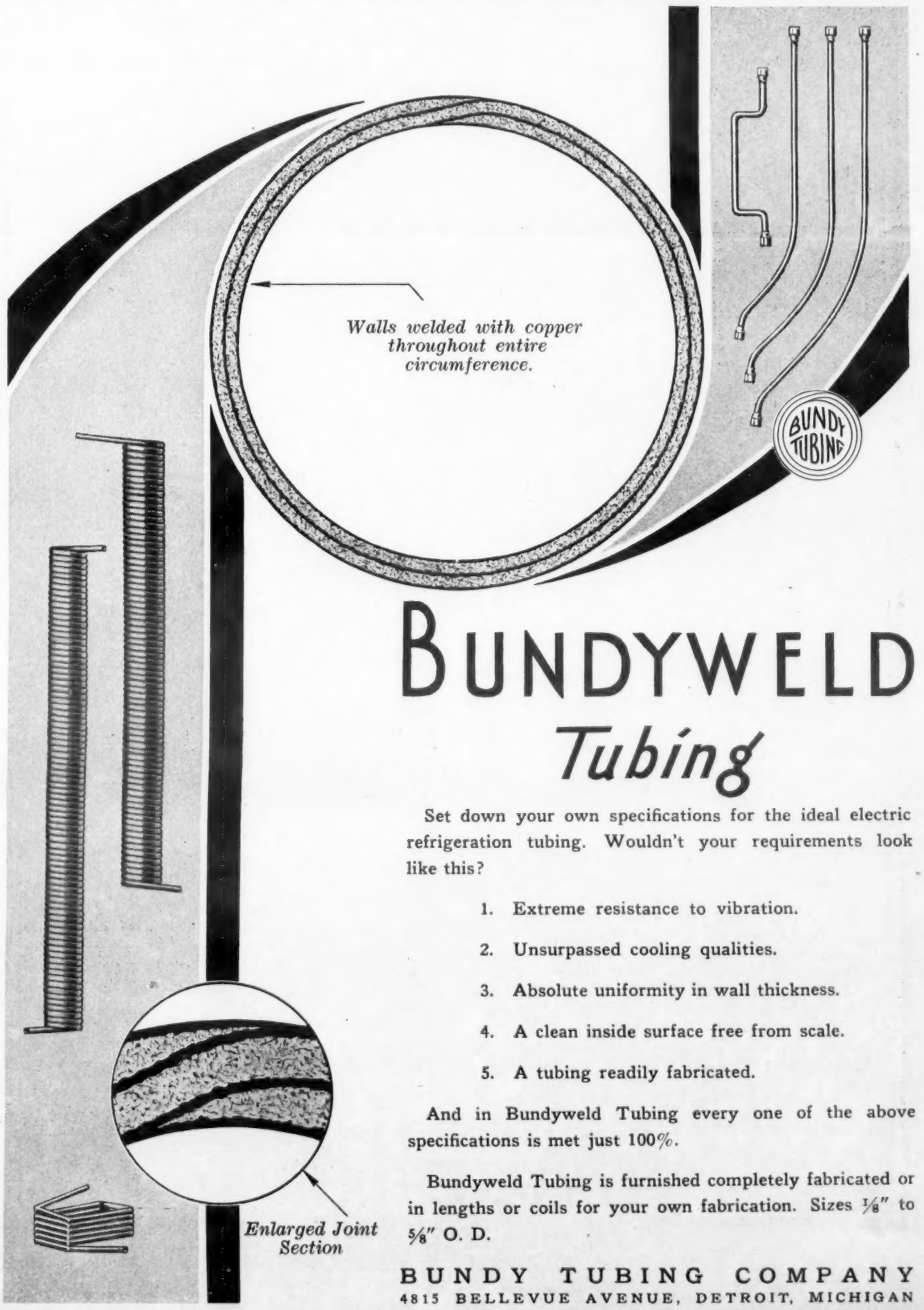

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REFRIGERATION OILS DISCUSSED BY ENGINEERS

Outlines Considerations In Choice Of Lubricating Medium

By J. Musser Miller

SEVERAL important factors are involved in the proper choice of lubricants for refrigeration equipment, some of which are enumerated below.

The protection of friction surfaces is dependent upon the "oiliness" of the oil and the viscosity of the oil at the operating temperatures. Inasmuch as "oiliness" of a lubricant is a much argued question and the almost universal absence of reliable technical data and means of test, this question will be slighted.

However, it might be well to say that "oiliness" is only important in the realm of "partial fluid friction," and since all designers of refrigerating equipment design their parts to eliminate this factor, it really does not enter the field of this discussion except to say that these might be extreme cases where it will help prevent serious trouble.

The other factors entering the lubrication of a part are speed, pressure per square inch of projected surface, and coefficient of friction of bearing surfaces. Wilson & Bernard have stated this relation in the following equation.

Coefficient of friction is equal to:

$$K \left(\text{Constant} \frac{\text{Speed}}{\text{Pressure}}\right)$$

and this relation is widely used by the designers and lubricating engineers in making recommendations.

While the above is important and necessary, other factors in the lubrication of a refrigerating unit also are of equal importance if not more. One of these is the action of the refrigerant on the oil. In some cases these reactions form deposits which interfere with the action of the unit and in others may also attack metal.

Carbon dioxide (CO_2) is an inert, colorless and odorless gas and has no effect on oil chemically. For this reason oils of suitable body and able to withstand temperature effects, with reasonable refinement can be safely used.

Ammonia (NH_3) is also a colorless but not odorless gas. It is quite stable and the remarks above apply to its use in contact with petroleum products. Typical examples of oils suitable for the lubrication of both CO_2 and NH_3 units are Polar Machine Oil for open compressors, and Stanolind Ice Machine Medium or Heavy for enclosed machines.

Sulphur dioxide (SO_2) is a colorless gas with a peculiar dry penetrating odor. It will readily combine with certain hydrocarbons present in oils of ordinary refinement. This is noticeable even at low or atmospheric temperatures, but at elevated temperatures will seriously affect even well-refined oils.

This action is typified by the formation of brown or black gummy deposits and in extreme cases carbon is deposited. These gums etc., appear in the hotter parts of the machine such as on pistons, rings and exhaust valves.

Oils of very high refinement are necessary and in many cases, oils of a degree of purity approaching medicinal oils are used.

From a lubrication standpoint the lower temperatures also are not a factor but from an operating standpoint they are. Any oil getting into the system must remain fluid in order that it can be drained from even the coldest parts.

Therefore, a refrigerating oil should in addition to the other factors have a pour point lower than the lowest temperatures encountered, and be low enough in viscosity or body to flow readily.

In conclusion we will briefly outline the requirements of a refrigeration lubricant:

1. Must lubricate all friction surfaces.
2. Must not react chemically with the refrigerant.
3. Must not decompose due to heat, etc.
4. Must be able to flow at all temperatures encountered in the system.
5. Must maintain all the above even after years of use without change in many cases.

FRIGIDAIRE COOLS TANK FOR TESTING THERMOSTATS

BRIDGEPORT, Conn.—Keeping the proper temperature while thermostats are being charged, is the job assigned to a Frigidaire one-third hp. compressor with special direct expansion coil in the factory of the Bridgeport Brass Co. The equipment was installed by the Downes-Smith Co., Frigidaire dealer here.

The tank in which thermostats are charged is 2½x2½x7 ft., and is insulated with six inches of cork. It is equipped with a type JTCQ Penn thermostat switch. The unit cools 70 gallons of alcohol brine employed in the charging process.

Vacuum, Texas Technicians Classify Refrigeration Lubricants

By Staff Members

NEW YORK CITY—What about oils for electric refrigerators?

To satisfy a curiosity of long standing, we packed up our questions, and came to New York, where we made visits to both H. S. Brown, staff engineer of the Vacuum Oil Co., and Dr. R. Haskell, industrial engineer of the Texas Petroleum Co.

Some information they would not give—it had to be kept within the companies' walls. But they did unlock some theories and practices that were interesting.

Here they are:

"In commercial units," said Mr. Brown, "there is no problem of regulating the action between the refrigerant—carbon dioxide or ammonia—and the lubricant, except when water finds its way into the latter refrigerating medium and thereby forms aqua ammonia.

"One of the greatest difficulties in commercial refrigeration lubrication in recent years has arisen because of over-loading the units, speeding them up to furnish greater refrigeration. This causes the oil to bear too great a burden, and it becomes gummy under the lowered temperature, and clogs the units' tubes."

Difficulties In Commercial Units

Difficulties arise also, according to this engineer, in lubricating the compressor cylinder in commercial apparatus. The temperature of the machine's discharge ranges from 200° to 300° F., and when the latter point is reached, or even a higher one, oil often becomes vaporized, and the discharge valves are coated with thick, impure parts of the lubricating substance.

This breaks down the efficiency of the compressor, and of the entire unit in general.

To surmount this problem, Mr. Brown states that several companies are now manufacturing an oil having a relatively high viscosity, or body, with a pour point of about "200 seconds at 100° F." (This means that a given quantity of oil heated to 100° F. will flow through a gauged outlet in a measured container in 200 seconds).

Before this lubricant was produced to prevent clogging the discharge valves, there was used in commercial equipment a heavy distillant blended with a light bodied oil having a low pour point. This compound, however, was not satisfactory, because the lighter parts evaporated in the compressor's heat, leaving the heavier parts to form deposits on the discharge values and other working parts.

Gummy Deposits In Condensers

When a poorly refined, or ill-proportioned oil is used in commercial equipment, gummy deposits will also accumulate in the condensing apparatus. This interferes with the heat transfer, and consequently increases the head pressure, which results in reduced refrigeration.

"A good oil for commercial refrigerating equipment using ammonia," said Mr. Brown, "must be fine enough to pass through the condenser and into the receiver where impurities may be drawn off, leaving the clean oil to circulate through the apparatus. Several lubrication and refrigeration engineers are now working in conjunction to construct these drainable receivers so that a better draining process can be secured."

A drain apparatus in a carbon dioxide machine is not practical, because the specific gravity of both the carbon dioxide and oil vary, and the gummy oil deposits cannot be drawn out without some of the refrigerant.

"When an inferior oil is used, gummy deposits tend also to gather in the expansion valve, this causing a decrease in the refrigerating capacity of the plant," said Mr. Brown.

"Even outside the compressor," he said, "oil must have maximum stability and a low pour point to insure fluidity and non-interference with the refrigerating process in general."

In opening a discussion of lubrication of household units, Mr. Brown stated that the problem here lies chiefly in a thorough drying of the compressor when it is charged at the factory, and not in mere selection of a proper lubricant, although, of course, the oil must be highly refined.

Little gumming of oil arises, he claimed, in units using ethyl chloride, methyl chloride, butane, as refrigerants because they are miscible—that is, they are mutually soluble with water in any proportion.

However, in methyl chloride units, removal of moisture is important because the uniting of moisture with methyl causes copper plating to occur within the tubing.

To some extent, methyl chloride and oil accumulate in the expansion system, with a consequent reduction of refrigerating capacity. This difficulty has largely been remedied, however, the engineer explained, by use of coils which may be drained of the accumulation.

In sulphur dioxide machines, another situation necessitates removal of moisture from the unit. If water becomes mixed with the oil within the unit, and this in turn mixes with the sulphur dioxide, a sulphurous acid is formed which not only forms a sludge in the system, but is injurious to most metals with which it comes in contact.

"Some manufacturers of oil are now producing a lubricant for sulphur dioxide units which has been acid treated to remove all parts which facilitate sludge formation," Mr. Brown said. "This leaves the oil water-white; the process, however, increases the cost of the substance."

Test For Household Oil

"A good oil for average household units using sulphur dioxide has a test of 212 seconds at 100° F. It is acid treated and is water-white," he said. "Oils for methyl chloride units vary widely in their quality because the lubrication problem here is one largely of mechanics, based upon the type of mechanism, unit pressures, etc.

"The average household unit contains less than one pint of oil. Highly refined, water-white oil costs approximately $1.00 a gallon, while commercial equipment oil is priced at approximately 50 cents per gallon," Mr. Brown said.

Dr. Haskell had this to say:

"Such refrigerators as General Electric and Frigidaire need a highly refined oil, which is not greatly affected by sulphur, dioxide, for all oils dissolve sulphur dioxide to a certain proportion, just as water dissolves carbon dioxide in forming carbonated water."

He said that ammonia refrigeration lubrication presents a lesser problem, because oil need not be highly refined to withstand ammonia action. This, too, holds true for methyl and ethyl chloride units. Sulphur dioxide units require the finest grade of oil, because this refrigerant tends to form a sludge when it mixes with a poor oil.

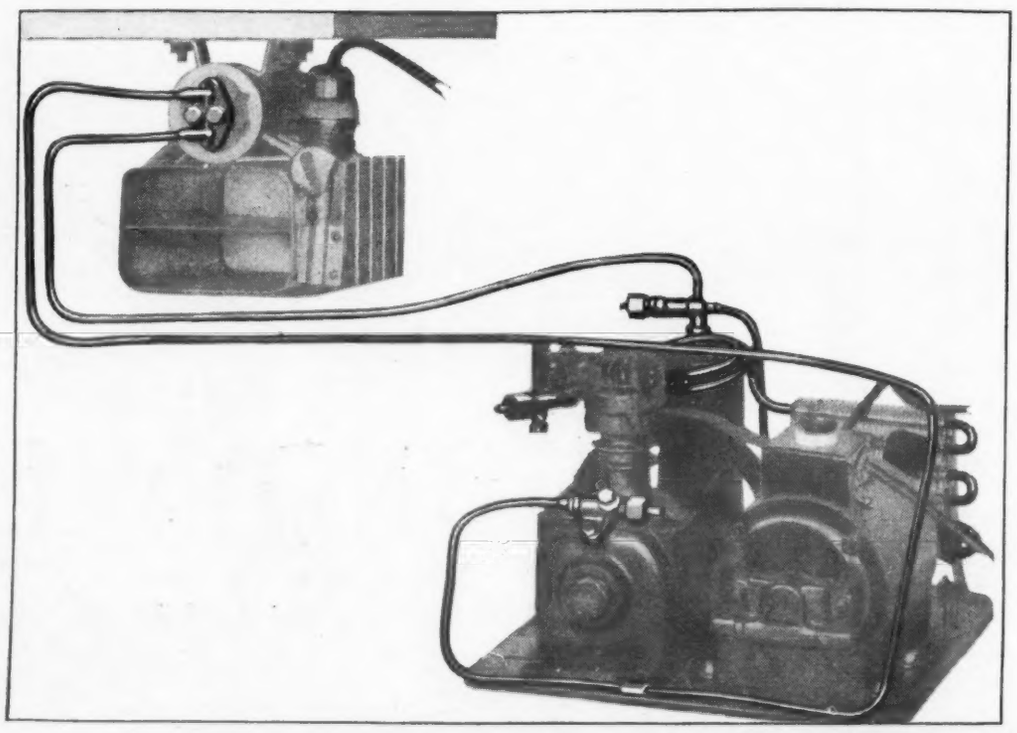
In outlining the generally necessary qualities of refrigeration oil, Dr. Haskell said that it must have a pour test sufficiently low to allow it to flow freely at the lowest temperature encountered on the system. Its viscosity must be no higher than is needed to seal the action of the compressors.

The Texas Petroleum Co. refines household refrigeration oil with sulphur dioxide under high pressure, according to Dr. Haskell. This makes the oil white or pale yellow in color.

He said that the best viscosity for household units varies much with the type of mechanism, but some good oils have a pour test of 30°-50° below zero, are water-white, and have a flash point of 300° F.

"Oil for commercial refrigeration need not be so highly refined, as appliances are usually provided on commercial units for draining off sludge which may form in the units when the refrigerant and oil come in contact," he said.

THE PHENOMENON OF
CAPILLARY ATTRACTION
makes these joints permanently tight



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The unique design of this patented joint insures a complete and instantaneous solder flow over the total area between pipe and fitting. Furthermore, this thin layer of solder forms a perfect bond between these two surfaces—completing a connection that in contrast to all other methods is actually the strongest point in an unusually strong installation.

In this way it is impossible for the gas to seep out, or for condensation or moisture to seep in, freeze, and collapse the tube or burst the fitting.

We also manufacture a complete line of valves and fittings, and can supply your every requirement. If you are not thoroughly familiar with this patented joint, write or wire us at our expense.

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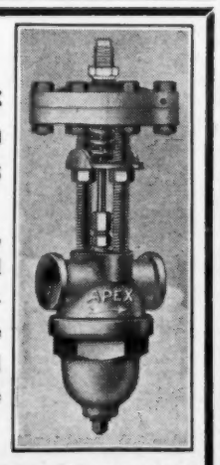

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Examines the New Lectrik-Ice

Pretty maid studies electric refrigerator of Uniflow Mfg. Co.

Specifications of New Lectrik-Ice Unit

(Concluded from Page 1, Column 1)

and 20½ in. deep. It is insulated with 3 in. of Dry-Zero.

The large size, model 654, has two doors. It will hold about 6.5 cu. ft. of stored food, on a shelf area of 12 sq. ft. Its ice cube production is 128. This cabinet stands 57⅝ in. high, 23 3-16 in. wide, and 21 in. deep. Model 654 cabinets are insulated with 3 in. of Dry-Zero.

All models are offered in three different exterior finishes—white lacquer; white porcelain on steel top and doors, grey porcelain body; or white porcelain on steel, with black trim. All interiors are white porcelain.

Assembled compressors must pump up a pressure of 300 lbs. per sq. in., and must pull a 30 in. vacuum before the inspector approves their installation in a condensing unit, according to Mr. Kuebler.

When the condensing units are assembled, they are placed on individual carriages, connected to a cooling unit on a lower shelf, and rolled into an insulated room where they get a test run. If their operation is satisfactory, they are installed in cabinets, and again get a running test, this time for temperatures, squeaks, and cycling performance.

A. W. CLARK NAMED HEAD OF OIL DIVISION

TORONTO—Arthur W. Clark has been appointed managing secretary of the newly created division of the American Oil Burner Association, Lionel L. Jacobs, chairman of the board of governors, announced after a recent meeting of the association directors here.

Mr. Clark was vice president of the Wayne Home Equipment Co., Fort Wayne, Ind.

REGO WELDER MAKES NORGE'S RECEIVERS

By Earl Evleth, Service Engineer
The Bastian-Blessing Co.

AMONG the numerous problems encountered by the Norge Corp. in the establishing of its refrigerator production lines was the fabrication of the refrigerant liquid receiver. This is a 14 gauge steel cylinder, 4 in. in diameter by 10 in. long, made from two cup-shaped halves, joined at the center girth seam by welding. The original specifications required the use of the oxy-acetylene process with hand operated torches, but difficulty was experienced from the start in obtaining uniform results.

The problem was submitted to the Bastian-Blessing Co., Chicago, manufacturers of Rego oxy-acetylene welding equipment. After considerable study a proposal was submitted, advising the construction of a special welding machine.

Suggest Change In Design

A change was suggested in the shell design, to provide a projecting flange 1-32 in. high on each end of the receiver cylinder halves, thus eliminating the use of welding wire in the operation.

The machine consists of a horizontal spindle on which is mounted a quick operating chuck to hold one-half of the cylinder. The other half is held in alignment and contact by the tail stock collect. A variable speed friction drive and gear reduction to the motor are used for speed control. The torch with a special multiple flame tip is mounted on a bracket arm above the work at an angle of 45°. The bracket arm has screw feed adjustments in two directions to permit proper location of the welding flame in relation to the weld seam.

The machine is semi-automatic in operation. The direct current motor is connected through a rheostat, permitting a slow start to bring the metal to fusion temperature, with increased speed as the weld progresses.

Valve Handles Shut Off

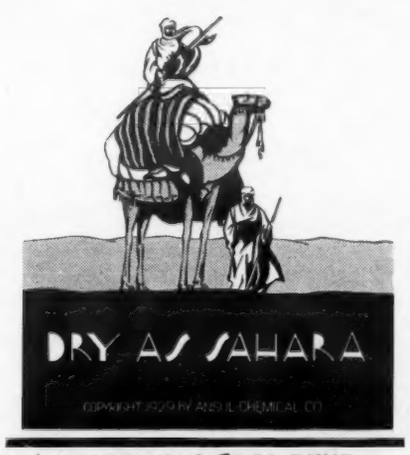
Solenoid valves connected to the rheostat handle shut off the gas supply when the motor feed is stopped, and an electric spark ignites the gases when the motor is started. The work revolves towards the operator so that the finished weld is always in full view. A steady flow of gas pressure is essential, and this is supplied by two-stage regulators.

The results over an operating period of several months show that the actual production of finished welds averages 45 pieces per hour, was a gas consumption of 0.53 cu. ft. of (each) oxygen and acetylene per piece. The investment in this machine which is now operating on two shifts has reduced the cost of the operation more than 50%, Norge men say. All of the receivers are subjected to a hydrostatic test pressure of 1,500 pounds per sq. in. with less than 1% rejects for leaks. The weld is smooth, and requires no grinding or finishing before enameling.

CHICAGO PNEUMATIC TOOL PROMOTES W. L. LEWIS

NEW YORK CITY—W. L. Lewis, vice president in charge of finance of the Chicago Pneumatic Tool Co., New York City, has been elected executive vice president of the organization. He was formerly assistant comptroller of the Bethlehem Steel Corp.

ANSUL
Sulphur Dioxide



ANHYDROUS SULPHUR
ANALYZED DIOXIDE

ANSUL CHEMICAL COMPANY
MARINETTE - WISCONSIN

Wirfs PATENTED
AIRTITE" GASKET
FOR REFRIGERATOR DOORS
IS MADE IN FIVE STANDARD SIZES

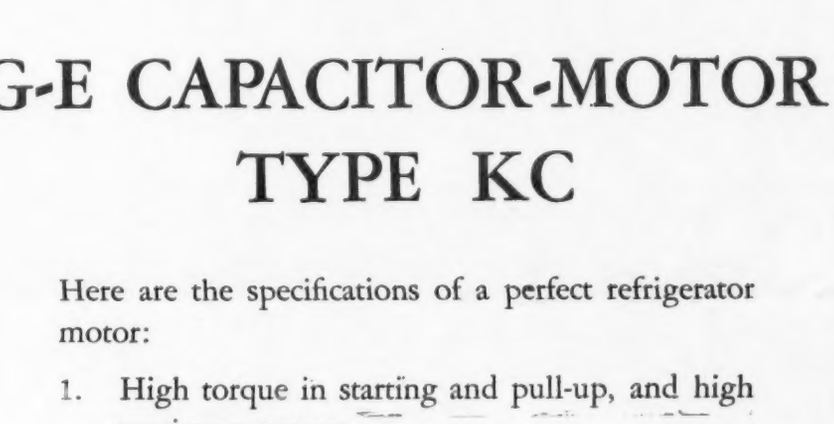
For the manufacturer requiring a special type, we offer the services and experience of an organization devoted exclusively to door gasket manufacturing

Let us work from your blueprints

DEALERS in electric refrigeration have many occasions to use "AIRTITE" Gasket. Write for samples and prices.

WIRFS CORPORATION
135 S. 17th St. St. Louis, Mo.

Check
this capacitor-motor with the perfect refrigerator motor



G-E CAPACITOR-MOTOR
TYPE KC

Here are the specifications of a perfect refrigerator motor:

1. High torque in starting and pull-up, and high maximum torque
2. High efficiency, resulting in lower operating costs
3. High power-factor
4. Unusually quiet operation
5. Reliable operation for long periods

THIS capacitor-motor, the General Electric Type KC, meets these specifications perfectly. It is the outstanding drive for the home refrigerator.

In addition to this complete capacitor-motor power unit, General Electric also has available a complete line of fractional-horsepower motor parts for general use in direct-connected refrigerators in which the motor parts may be subjected to the action of the refrigerant. These motor parts, consisting of stator and rotor, are available in horsepower ratings of 1/10, 1/8, 1/6, 1/4, 1/3, 1/2, and 3/4 hp. They are intended for mounting directly in the compressor unit.

Why not ask your nearest G-E office to give you complete information about these dependable, time-proved products — about the complete line of G-E fractional-horsepower motors for every need?

210-147

GENERAL ELECTRIC

ENGINEERING SECTION ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Refrigeration Industry

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Diplomacy

BETWEEN the energetic salesman and the buyer of electric refrigeration equipment is an important connecting link which often determines the final satisfaction resulting from the transaction—that link is the service man. He contacts both the salesman and the buyer, and is not only expected to keep the machine in good condition but also to keep the user satisfied.

It has not been unusual for a salesman to exaggerate regarding the refrigerating ability of the equipment. If the machine fails to perform according to the optimistic promises of the salesman, and the purchaser complains, it becomes a problem for the service man. Often the unit is operating properly to the full extent of its capacity, but the service man has the task of explaining its limitations.

His job calls for tact and diplomacy—qualifications which many a first class mechanic has not developed sufficiently.

Thus we have two distinct problems for the training school; first, to guard against exaggeration on the part of the salesmen, and second, to show service men how to meet the situation when they find it.

Low-Cost Insulation

MANUFACTURERS of insulation have been complaining recently about the pressure for lower prices being brought to bear upon them by purchasing agents for electric refrigerator makers. A combination of circumstances has caused insulation prices to drop to an extraordinarily low level. And still the refrigerator builders are insisting that the cost of insulation must be made even lower.

An impetus to the demand for cheaper insulation was given by the price war which began among insulation manufacturers this spring—a war which whetted the appetite of refrigerator manufacturers for more economical insulants.

Curtailed Business Activity

This price war resulted from the absence of demand for insulating materials from building contractors, construction activities having been practically at a standstill all spring. Several makers of insulation discovered that they had greatly overestimated the 1931 demand in the construction field, and found themselves with large stocks on hand and no bidders. Dumping followed. And refrigeration manufacturers saved money.

Another factor is the entry of new companies into the refrigeration insulation field and the development of new substitutes for the commonly used insulating materials.

Before the advent of the electric refrigerator, ice boxes were becoming more and more inferior in quality. Most of the selling was done by department stores in special sales, and the cry was ever for cheaper boxes. When the electric refrigerator arrived the market for quality cabinets returned. To hold the lower temperatures obtained by the refrigerating machines, cabinet manufacturers had to make better refrigerators than they had ever put out before. The best of insulation was sought and used.

There is a possibility that the electric refrigerator will repeat the history of the ice box if the demand for low-priced units dominates manufacturing policy. If low price, rather than quality, becomes the keynote there is scarcely any limit to which the cheapening of construction may descend.

Improvement in general business, particularly a renewal of building activity, will aid the harassed insulation manufacturers. Another hope for the future lies in the development of low-temperature refrigeration equipment. Here, again, the demand will be for the best material available, since temperatures around zero put a new premium on quality construction.

Another refrigeration development of the future, home cooling, will further expand the market for insulation.

Good insulation is the *sine qua non* of good refrigeration.

On Our Bookshelves

"133 PRACTICAL WAYS TO CUT PLANT COSTS"
Author: Lewis K. Urquhart. Publisher: McGraw-Hill Book Co., New York City. Pages: 192. Price: $5. Publication Date: 1930.

TO HELP factory managers reduce factory costs, this book has been prepared by L. K. Urquhart, associate editor of *Factory and Industrial Management* magazine, and consists chiefly of suggestions offered in "Practical Ways to Cut Costs," a monthly feature of the magazine with which the editor is connected.

The fact that a large proportion of the articles were written by production men identified with large industrial organizations is first-hand evidence that the old notions of keeping secret all information which might be used by competitors, are fast being dispelled in favor of more co-operative, helpful attitudes.

The cost-saving ideas are all regarded as individual "plans," with no particular relationships one to the other, except that the plans are grouped into nine chapters on the nine specific phases of production in which they may be applied: Buildings and Yard—Plant Layout; Building Equipment and Maintenance; Power; Materials Handling; Energy Savers; Time Savers; Making the Product Better and More Salable; Building Up and Training the Force—Safety; and Materials, Cost and Production Control.

With very few exceptions, each of the 133 articles is illustrated with photographs or drawings clarifying the suggestion.

The methods are aimed at saving overhead costs, saving man-power, speeding production, making jobs easier and simpler for the workmen, and generally raising plant efficiency to the end that lower production costs may be effected.

Explanations are simply written, short and to the point. In many cases the author of the plan outlines the comparative costs of the regular and improved methods, showing the possible savings in the new application.

The book is interesting even to the layman not directly concerned with production problems just in learning what progressive plants are doing to improve production methods; to the manufacturing man it should prove very stimulating, and out of the 133 suggestions, the chances are that one or two at least would be found applicable.

GLEANINGS
FROM RECENT PERIODICALS

THE gradual and widespread endorsement of the A. S. R. E. Safety Code for Refrigeration has been accompanied by a comparatively small amount of criticism. However, the February, 1931, issue of the bulletin of Heating and Piping Contractors National Association contained a communication from Louis T. Braun of the Chicago Master Steam Fitters Association, dealing with this code, now called American Standard safety code since its approval by the A. S. A. Mr. Braun stated that the code had been written by association members who knew little about the subject and that the code imposed unnecessary restrictions.

This attack was answered by Alvin H. Baer, president of the A. S. R. E., in a long letter of reply in which the expert authority and sufficiency of the safety code was defended. This communication covers very effectively the entire background of this project and is a document which is a useful record of this important project. According to Mr. Baer, the history of the code has been one of careful study and final agreement by the best minds available on the subject.

This is the first printed criticism of the code to appear since it was passed and the first of all to maintain that it is too strict. The last literature on the subject was on the other side of the fence, when John E. Starr, in several periodicals, maintained that the trouble with the code was its leniency.—August, *Refrigerating Engineers.*

An Editor on Wheels
Stories of Interesting PLACES in the Refrigeration Industry

By GEORGE F. TAUBENECK

New York City

All New York's a stage. Those who live there play their mob scene roles as intensely and earnestly as if their names glittered in mile-high electric bulb letters over New York harbor—the entrance to this colossal theatre.

It's like a circus so large and with so many rings that if one began traversing its length today one would almost have done with the acrobats by Christmas; with the elephants, caged lions, trained seals, and dancing horses yet to come—and always there'd be the chance that another ring of acrobats would appear in the next block.

The best known rings of this Paul Bunyan circus are "as advertised." Their romance and flavor and atmosphere have been blurbed so often for the edification of the hinterland that those who live and move and have their being in Wall Street, Broadway, Fifth Avenue, and Park Avenue not only have come to believe the legends themselves but strive daily to act the parts assigned to them by popular imagination.

(Psychologists claim that at the slightest provocation any of us will slip into a dream world in which we fancy ourselves Mussolinis or Morgans or Fords or Stalins or Ziegfelds or Chevaliers or almost anybody but ourselves. An editor of a tabloid newspaper—which paints weak-kneed criminals as steel-nerved heroes, and half-witted love nest culprits as modern counterparts of Antony and Cleopatra—once told me that after third-rate thugs had read the lurid exaggerations of their own misdeeds they actually became dangerous criminals for a time; and that cheap gangster's molls—who would have sold their mates for 30 pieces of silver before reading stories about their own courageous devotion and loyalty—became almost noble in defense of their men.)

New York is peopled, of course, with thousands of sane, normal persons who see themselves as in a glass, face to face. But nowhere else in this land of unique cities are people so conscious of footlights and an audience.

"We're in New York now," new citizens seem to say, "and we must act the part."

* * *

Wall Street

A fat man in Wall Street is as rare as an Irishman in a synagogue. Lean, hungry, nervous, intent, the men one sees on this narrow little alley are as keyed up as sprinters before a race. They don't sit down long enough to accumulate any avoirdupois.

Young boys with flames in their eyes and glory in their cheeks. Little old men in whom the consuming fire is still burning. Middle-aged dynamos who are as restless as a collie pup on a leash. Business girls who move quickly and glance sharply with hard eyes.

One hears hoarse voices everywhere—as if those on the street had just returned from the World Series or a college football game. Irritability is evident wherever one turns. Cars bump frequently, although serious accidents are few.

A girl newsdealer who sells her market extras aggressively does a rushing business. She has the only smile on the Street which would "stay put" long enough for a time exposure.

The Street itself belongs to the atmosphere which romantic imagination has created for it, and which those who work there strive to live up to so assiduously.

Its buildings aren't so high, as Manhattan buildings go, but the dachshund-like paved pathway they enwall is so narrow and circumscribed that the pedestrian feels as hemmed in as a swimmer who looks up to see an ocean liner on either side of him and both trying to dock in the same stall.

At one end is old Trinity Church, its Gothic spire framed by the two walls of buildings.

George Washington, sculptured, stands in front of the Treasury building.

The Gothic cathedral, the Greek-temple treasury, the statue of our first president seem startling in the midst of such a jam of American business buildings, but they are not jarring.

Everything about Wall Street, everyone to be found on it (*in* it would be better) seem to belong to the conventional picture of the nation's financial center. Romantic visitors will not be disappointed.

* * *

Broadway

After midnight Broadway becomes aglitter with peroxide-and-ammonia-and-platinum blondes, soulful eyed young men with walking sticks, older men with musicianly mops of tousled hair.

One can't mistake the place; it's theatrical from the tops of the dazzling electric signs down to the knee-high-to-a-grasshopper bootblacks whose portable outfits would be set up in the middle of the street, if the law allowed.

All seem to have just left a theatre (either audience or stage) or to be living for the next chance to enter.

Drug stores advertise theatrical makeup in signs larger than the customary "sodas, luncheonette, prescriptions." Gaudy film posters—some of size cut evidently to grace the Rock of Gibraltar—proclaim the presence of much less flaunting and pretentious cinema houses. Thither flock the multitudes.

Somewhat more secluded are the legitimate theatres. These are located just off the Main Stem on little one-way cross streets.

Unlike the chorines and male hoofers from the Broadway revues, the casts of these plays rarely appear along the Great White Way after their performances. Where do they go? We'll tell you where one group went, at least.

Upon emerging from a New York playhouse one night last week, a heavy downpour of rain greeted us. We had sat in the second row, and by the time we got outside all the taxicabs in sight had been commandeered. Came then the limousines with liveried chauffeurs.

By the time these sleek conveyances had been loaded with their cargoes of silk hats and low-cut gowns, the principals of the cast began to appear. So we watched.

First on the scene was an elderly actress, who was greeted effusively by a blondined middle-aged woman who had once trouped with the aforesaid actress. They went off together in a cab hailed by the blondined woman's very youthful escort.

Came next the prettiest girl of the cast, an ingenue who had played Dumb Dora. She ran out of the theatre and up the street, with the long, swinging strides of a tomboy who has been reared in the country, to a parked Ford roadster. She plumped herself in the roadster, and the grinning young man at the wheel whisked her away.

A life-of-the-party character actor followed and, true to type, organized a ribald group, herded his gang into three cabs, and vociferously directed them all to his hotel suite.

One after another, girls of the cast came out and entered waiting coupes or roadsters. One young fellow, in an old Pontiac sedan, collected a grand total of one major and four minor role actresses.

The leading man escorted out a girl who had appeared only once in the play—and that to walk across the stage without uttering a word. Other male actors stalked away alone, brandishing walking sticks at importunous bootblacks.

At last, after the entire theatre was cleared, came the star. In the play she had been a temperamental Russian. Off stage she was a temperamental Russian.

She had two men in tow, together with the chauffeur of her car and the chauffeur of the gentlemen's car.

Three times she ordered a box of flowers transferred from one car to the other, and back again. She gesticulated with her chauffeur 20 minutes before allowing herself to be assisted into the other car.

Briefly summed, these actors and actresses acted just as actors and actresses are supposed to act. No home-and-fireside stuff for them. No sir! Out again where they could act some more.

* * *

Fifth Avenue

A woman who, on 44th St., was simply the wife of a Bronx restaurant proprietor, becomes a Gibson Girl when her feet alight on Fifth Avenue. Filing clerks from Madison Avenue and stenographers from Fourth Avenue turn mannequin when they walk down magic Fifth.

Here, too, is a famous bit of New York topography upon which a daily play is staged. Listen to the conversations. They sound like pages out of *Vogue,* out of the *Butterick Quarterly.*

And every girl who gets a new dress comes down to Fifth Avenue to give it an airing, sooner or later. It's probably a law.

Today Fifth Avenue is dotted with feminine heads wearing that atro-

(Concluded on Page 7, Column 2)

AIR CONDITIONING RAISES RESTAURANT PATRONAGE

WASHINGTON, D. C.—Artificial refrigeration for cooling restaurants will be a commonplace within a few years. Why not install a cooling system now and be a step or two ahead of your competitors who will be compelled to adopt it sooner or later?

Thus runs the logic of Milton Hollander, manager of the Press Cafeteria, located in the basement of the National Press Bldg. in Washington. Mr. Hollander has just installed in his cafeteria what he claims is the first cooling system in any Washington restaurant.

During the first week of the system's operation, the cafeteria's patronage increased approximately 20 per cent, Mr. Hollander said. This figure, he feels, is really an under-estimate of the patrons brought to the cafeteria as a result of the cooling system.

Located in the basement of the National Press Bldg., the cafeteria has no direct outlet to the street. A building ventilating system brought outside air into the cafeteria, but in summer, Washington's outside air is much too hot to be bringing inside. Added to this, however, was the heat of the steam table and the natural body heat of the cafeteria patrons.

Mr. Hollander believed he would be compelled to do something to combat the summer slump which most of his competitors took for granted. He decided to install a cooling system.

He approached officials of the Fox Theater, located in the same building, and arranged to have the theater's cooling system extended into the cafeteria. It became necessary to enlarge the theater system, this being done at the expense of the Press Cafeteria. The total cost of this installation, Mr. Hollander said, was $15,000.

The cafeteria pays the Fox interests a stated sum per 1,000 gallons of water used in the system. Approximately 150 gallons per minute are used in cooling the cafeteria.

Under this arrangement, Mr. Hollander is saved the expense of hiring an engineer, as he would be compelled to do with an independent system. He also does not have to maintain the system. He pays only when the system is in use in the cafeteria. Because of this, the system is turned on about 11 a. m. daily and operated until 2 p. m. At 4:30 p. m. it is again turned on and operated until 7:30 p. m. These periods cover the lunch and supper hours. The cafeteria does not serve breakfast.

When this was written, Mr. Hollander had not compiled exact figures as to the cost of operation and the increased patronage chargeable to the cooling system. At present the cafeteria is serving from 1,400 to 1,500 patrons daily.

Coming Events

American Institute of Electrical Engineers, Pacific coast convention, Aug. 25 to 28, Lake Tahoe, Calif. F. L. Hutchison, 33 W. 39th St., New York City.

Electrochemical Society, Sept. 2 to 5, Hotel Utah, Salt Lake City. C. G. Fink, Columbia University, New York City.

Empire State Gas and Electric Association, annual meeting, Sept. 10 to 11, Lake George, N. Y. C. H. B. Chapin, Grand Central Terminal, New York City.

International Association of Electrical Inspectors convention, Sept. 21 to 23, Salem, O. W. S. Boyd, 175 W. Jackson Blvd., Chicago.

Association of Electragists, International, convention, Oct. 5 to 8, Hot Springs, Ark. L. W. Davis, 420 Lexington Ave., New York City.

Boston Radio-Aero Exposition, Oct. 5 to 10, Boston. S. H. Fairbanks, manager, 209 Massachusetts Ave., Boston.

American Gas Association, annual meeting, Oct. 12 to 15, Atlantic City, N. J. Kerwin R. Boyes, 420 Lexington Ave., New York City.

National Safety Council, annual congress, Oct. 12 to 16, Chicago. W. H. Cameron, managing director, 20 N. Wacker Drive, Chicago.

International Association of Municipal Electricians, annual meeting, Oct. 26 to 30, Jacksonville, Fla. W. H. Harth, City Hall, Columbia, S. C.

International Association of Ice Cream Manufacturers, annual convention, Oct. 26 to 31, Atlantic City, N. J.

National Association of Practical Refrigerating Engineers, annual convention, Nov. 10 to 13, Houston, Tex.

An Editor on Wheels

Stories of Interesting PLACES in the Refrigeration Industry

By GEORGE F. TAUBENECK

(Concluded from Page 6, Column 4)

cious concoction of the milliner's art known as the Empress Eugenie hat. It reminds us more of Robin Hood than of the Second Empire.

In case you haven't seen it, this cocky little chapeau is a tricorn affair which is worn over the right eye, and which covers about one-sixth of the head. Some of them have plumes.

Very few girls can get away with it without looking like a Parisian demimonde. The Empress Eugenie hat isn't attractive, but at least it is romantic, pert, inviting . . .

For the benefit of women readers, we might say that it was pointed out to us that Fifth Avenue is now showing higher waistlines and necklines, fitted bodices, straight skirts. Black and white predominate, in combination. Velvet is the rage.

On my last trip to New York I thought all the town's famed beautiful girls had moved elsewhere. Undoubtedly that erroneous impression was gained because I was on Fifth Avenue scarcely at all.

Style, style, style. The avenue itself has a distinctive style. Cars whizz past as fast as automobiles on Chicago's vaunted Michigan Avenue. One difference (besides the absence of a stiff lake breeze): on Michigan Avenue, Chicagoans are Chicagoans; on Fifth Avenue, New Yorkers are fashion plates.

Again, the acting. Again, the storied atmosphere. Again, the obvious screams out.

* * *

Park Avenue

Just as predicted, Park Avenue is as swanky as a millionaire's apartment in a movie.

Rolls-Royce, Minerva, Daimler, Isotta-Franschini cars parked at the curb. Expensive dogs on leash. As quiet as uptown New York can be. Elegance, refinement, money.

And denizens acting their parts.

The vista down Park Avenue toward the New York Central building is indeed majestic. Clean, blocked-out as neatly as a section of an architect's model city, dignified, fast-moving, it is metropolitan layout at its best.

* * *

Rackets

Visitors to New York are always warned to look out for their pocketbooks. One is told, for instance, not to feel for one's wallet at the cry of "pickpocket;" for the gesture indicates where you keep your money.

Another sound piece of advice to strangers is to make purchases only at reputable stores. Street hawkers, and their number is legion, will try to sell you anything from sweet-scented moth-ball substitutes to shares in the new Empire State building.

These street hawkers are almost as good at acting as the street beggers, than which there am no whicher.

Undoubtedly your "typical New Yorker," your man with a combination of sophistication, polish, nervousness, and gullibility, came from the "sticks."

He knows all the ropes, and all the answers. He dresses correctly, moves punctually, lives a well regulated life, has a sublime contempt for all who can't live in New York.

But in spite of his cosmopolitan erudition, he will stand for many long minutes beside an excavation—surely a familiar sight in New York. He will bite on sucker games. And he will join the crowds that flock to hear Rudy Vallee night after night.

He has come from a small town, with an itch in his bosom to knock the Big City for a row of gold-plated waste-baskets.

If successful, he must keep up appearances. If not, he must hide his mediocrity underneath a mask of blase indifference, and wrap 'round him a cloak of the city's greatness.

He is the consummate actor; the man who lives his part.

* * *

Skyscrapers

Along with Grant's tomb, the Statue of Liberty (which, by the way, is getting a beauty treatment) the Aquarium, and Chinatown, the Woolworth building long held sway as a "point of interest" for all visitors.

It is now dwarfed by the stainless-steel-tipped Chrysler building, and by Al Smith's Empire State building. You can forget about Grant's Tomb and Chinatown, but don't miss the sight of the Empire State building. It is probably as noble a structure as exists in the world.

We know it sounds naive and trite and obvious to go into raptures about a New York skyscraper. But if our thesis is correct—that New Yorkers strive manfully to play the parts imaginatively assigned to them, that they do the artificial rather than the natural things—a paean for the Empire State building is perfectly apropos.

Some of the older set-back skyscrapers look like blocks piled up by a child, inharmonious stacks which may topple any moment. But most of the later edifices are superbly symmetrical.

Not even the simple dignity and flowing grace of a Parthenon can equal a modern skyscraper for rhythmic beauty. It's my notion that those who deplore the effect modern business and engineering have had upon art are all cock-eyed.

ARMSTRONG CORK CO. NAMES TRUSLOW TREASURER

LANCASTER, Pa.—H. A. Truslow, vice president of Armstrong Cork Co. with offices at Pittsburgh, has been made vice president and treasurer to fill the vacancy caused by the death of William H. Larimer.

ALLEN-BRADLEY OFFERS SPLASH-PROOF STARTERS

MILWAUKEE — New across-the-line starting switches have just been announced by the Allen-Bradley Co. here, for use in laundries, packing plants, creameries, and other places where a splash-proof starter is necessary. They are illustrated in bulletin 710 W. T.

The new starters are rated for squirrel cage motors up to and including 100 hp., 220 volt, and 200 hp., 440-550 volt. On slip-ring motors they serve to control the primary circuit up to and including the maximum rating listed for squirrel cage motors.

When the thermal relay reset button is omitted from the side of the cabinet, the new starter is water-tight, the manufacturer claims.

HOSPITAL BUYS EQUIPMENT FROM CARBONDALE

SAN JOSE, Calif.—(UTPS)—The Carbondale Machinery Co. of Los Angeles, has been awarded the contract for furnishing and installing a complete ice making and refrigerating plant for the service building of the Santa Clara County hospital of this city.

The Purest Sulphur Dioxide
EXTRA DRY
Made by our exclusive patented process. **ESOTOO** Pure, easy to handle, does not deteriorate.
Trade Mark Reg. U. S. Patent Office
Made expressly for refrigerating use. Analysis guaranteed to show not over 50 parts of moisture per million.
Carried in stock by our Agents everywhere. Write or wire us where we can serve you.
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DRINKING WATER FAUCETS
for
Refrigerators—Water Coolers
New model now available for use on city water pressure

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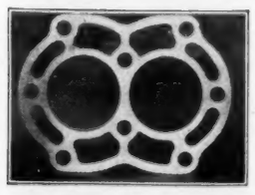
GASKETS FOR REFRIGERATION

Made of a special metal developed for electric refrigeration.
It has a dull matte finish that is very important for lasting service.
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Let us send you sample gaskets for test. Send us templates or drawings.
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Comparative studies show Brass cheaper
for most screw machine products

AGREATLY increased rate of production due to the superior machining qualities of brass, together with the high salvage value of brass scrap, serve in the majority of cases to bring the total cost of producing a given piece in brass well below that of production in steel.

The following examples illustrate the production increase with brass and consequent cost reduction in three typical cases.

PIECE	PRODUCTION per machine per day Brass	Steel	COST REDUCTION per M pieces with brass
Filler Cap	4100	800	37.8%
Retaining Nut	2000	176	35.5%
Valve Clapper	1350	300	7.5%

Increased production and high scrap value are but two of the reasons why scientifically alloyed Anaconda Free-Turning Brass Rods are rapidly receiving recognition from leading manufacturers as the best all-around material for the manufacture of screw machine products. Complete information in Publication B-14.

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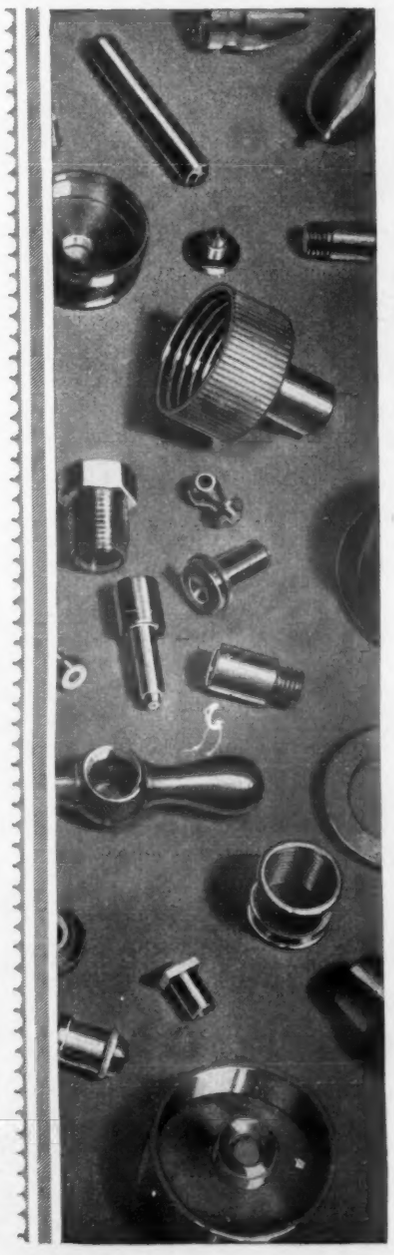
*Trade-mark Reg. U. S. Pat. Off.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Liquid Cooler Engineer Tells How To Balance Duplex Systems

By Arch Black,
National Service Director, Liquid Cooler Corp.

FROM a sales and an engineering standpoint, the first service mistake discussed in Frank W. Gray's *Service Hints*—that of connecting up in multiple systems, various freezing units requiring different temperatures—in the July 15th issue of the *Engineering Section* of the NEWS is inclined to be misleading.

The practice of duplexing equipment where two or more temperatures are required is no longer an experiment, but an every day installation giving entire satisfaction. Let us take the modern soda fountain as is put on the market today by a well known fountain manufacturer and requiring at least four different temperatures with one condensing unit.

The pressure control at the condensing unit is set to take care of the temperature required for the ice cream, a thermostat expansion valve takes care of the temperature in the syrup rack and dry storage compartment. The salad pan is taken care of by a two temperature valve, and the water cooler in this case is of the instantaneous type. Therefore the temperature is governed by its own control. If the water cooler was of the storage type, the temperature would be governed by another two temperature valve.

Similar installations requiring various temperatures are found every day in restaurants where water coolers are duplexed with short order boxes, ice cream cabinets and other equipment. Merely by setting the control at the condensing unit to operate on the evaporator requiring the lowest temperature and installing two temperature valves where necessary for other equipment, entirely satisfactory operations will be obtained.

Mr. Gray states that pressure reducing valves may be installed to balance such a system. It is the writer's thought that installations of this type do not necessitate the use of the pressure reducing valve. In certain extreme cases, a check valve may be required.

In duplexing equipment, it will often be found necessary to deviate slightly from the usual settings of the control at the condensing unit which is best suited for the product requiring the lowest temperature. This setting change will vary according to the amount of business on any one particular product being refrigerated.

Take for instance, the ice cream cabinet operating alone on one compressor. The ice cream temperature does not vary as does the brine temperature, but instead remains almost constant at a temperature which is the average between the cut-in and cut-out temperature of the brine.

Thus, if the brine is at 10° F. when the machine starts, and is at zero when the machine stops, the ice cream will be found to remain at about 5° F. Now, if this same ice cream cabinet is duplexed to a liquid cooler, and a fair volume of liquid is drawn throughout the day, this would mean that the machine is going to cut-in much sooner and before the brine reaches 10 degrees, but still cut-out when the brine reaches zero. The result would be that a lower average temperature would be found in the ice cream.

Similar conditions will be found in every installation where two or more temperatures are required. The adjustment necessary on the control at the machine will be dependent upon the individual installation. However, it may be said that when large changes of temperature are required, it will usually be found best to change the cut-in and cut-out temperatures the same amount, thus leaving the length of the cycle undisturbed.

Success in the matter of duplexing equipment is, however, the result of the same factors as in the case of all installations, namely a thorough understanding of the principles, construction, and function of the various parts of the mechanism under consideration. When the service man knows and understands the various units of which the installation is composed and at the same time understands how the various parts are designed to function, there can be little question regarding the successful operation of equipment being duplexed.

Adhering to Mr. Gray's suggestion of restricting installations requiring various temperatures to separate condensing units is all very well in many respects, but considerable sales would be lost if this rule were followed.

UNIT RUNS CONTINUOUSLY; CAUSE: GROUNDED MOTOR

BUFFALO, N. Y.—When the proprietor of Saragusa's Butcher Shop at 899 Niagara St. here, phoned in to the Kelvinator Buffalo Corp. to report that his machine ran continuously, George O'Hara, service man, packed his tool kit with everything necessary to locate the usual causes of this difficulty.

Somehow, the equipment responded to the usual tests properly, and to all appearances, was in perfect condition. Still, the proprietor was right—the machine never stopped.

Finally, service man O'Hara noticed that the motor was running when the control was in the "off" position. Investigation of the motor revealed the fact that one of the windings was shorted to the ground, feeding current to the motor regardless of the position of the controls.

Niagara Hudson, the local utility here, has been changing all its 25 cycle customers over to 60 cyle, and in changing the motor in Sargusa's market refrigeration equipment, a defective 60 cycle motor had been installed.

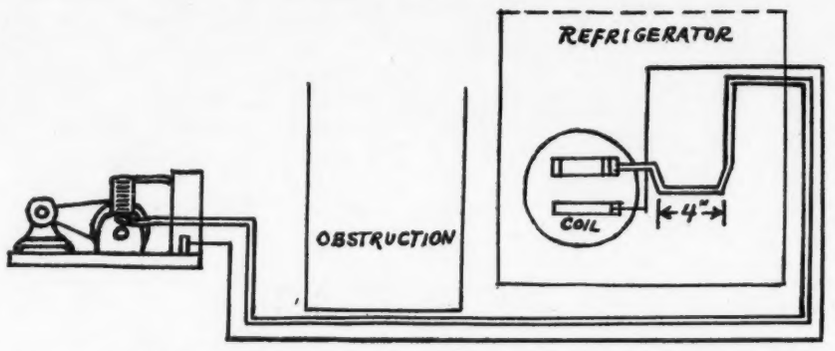
Because of the fact that Buffalo has had three kinds of current—direct current, and 25 and 60 cycle alternating current—service manager Warren of the Buffalo Kelvinator Corp. has given his men special training in motors.

SERVICE MEN'S FORUM

A Column Devoted to the Problems of Service and Installation Men

To encourage the exchange of practical ideas in the service and installation of electric refrigerators, this department is conducted as an open forum for service and installation men. What methods have you devised to improve your field work? You are invited to send in suggestions to the Engineering Editor, Electric Refrigeration News, 550 Maccabees Bldg., Detroit. One dollar will be awarded for each new idea used in this column.

Oil Return with Heavy Suction Line



W. R. Brown, a Pittsburgh Frigidaire man, suggests the use of a ⅜ in. single suction line to secure proper oil return from a flooded cooling unit when the compressor and refrigerator are installed on the same level.

THE arrangement suggested by Mr. Hughes in the July 29 "Service Men's Forum," for insuring the proper oil return in flooded type installations where the compressor must be placed on the same level as the refrigerator, was used here successfully until we discovered an improved hook-up to accomplish the same results.

We found that by using a ⅜ in. single suction line, good results were obtained without the double line. It has the advantage of being in no way extraordinary, except for the larger size tubing, and has worked successfully in installations for two years.

This method also takes care of the worst possible oil trapping condition, namely in jobs where tubing cannot slope from the coil to the floor, but must first rise to the top of the box, as in the case of porcelain lined refrigerators and milk coolers, semi-submerged coils, etc. The compressor works equally well *above* the coil with this arrangement, provided it is not an air-cooled type exposed to high ceiling temperature.

We have figured the approximate amount of oil taken out of solution in the process of evaporating the refrigerant from the coil during each cycle, and have arranged a small horizontol offset, 4 in. in length, in the run of tubing near the header. This amount of tubing will not fill with oil at any time except during the active "on" part of the cycle, and will remain clear for ready response of controls to coil pressures, and clears very readily when oil is returned during active evaporation.

W. R. BROWN,
Suburban Electric Development Co.,
5624 Penn Ave.,
Pittsburgh, Pa.

Suggests Loop in Tubing at Compressor

NOW comes a letter from J. B. Venter of the Refrigeration Service Co. in South Jacksonville, Fla., who claims that the suggestion in the last Forum for using a double suction line to provide proper oil return on flooded type installations made on the same level, doesn't help.

He writes: "This system has been tried out over a period of four years by the writers and others in this territory, and isn't as good as using a single line.

"It is a known fact that anything—gas, water, air, or electricity—will take the path of least resistance. The shorter line being this path, naturally the gas coming from the coil will take it first. When the shortest line is filled with oil, the second line will come into play, leaving the first full of oil which should have returned to crank case. In time the second line will fill, causing short cycling.

"We suggest using one line, with a half circle looped at the end entering the compressor. This will allow all the oil to accumulate at one point, and with the gas pressure behind it and the vacuum of the compressor pulling, the oil will be lifted back to the crank case."

J. B. VENTER,
Refrigeration Service Co.,
536 Pine St.,
South Jacksonville, Fla.

DOVEN MEN TRAINED FOR ETHYL CHLORIDE

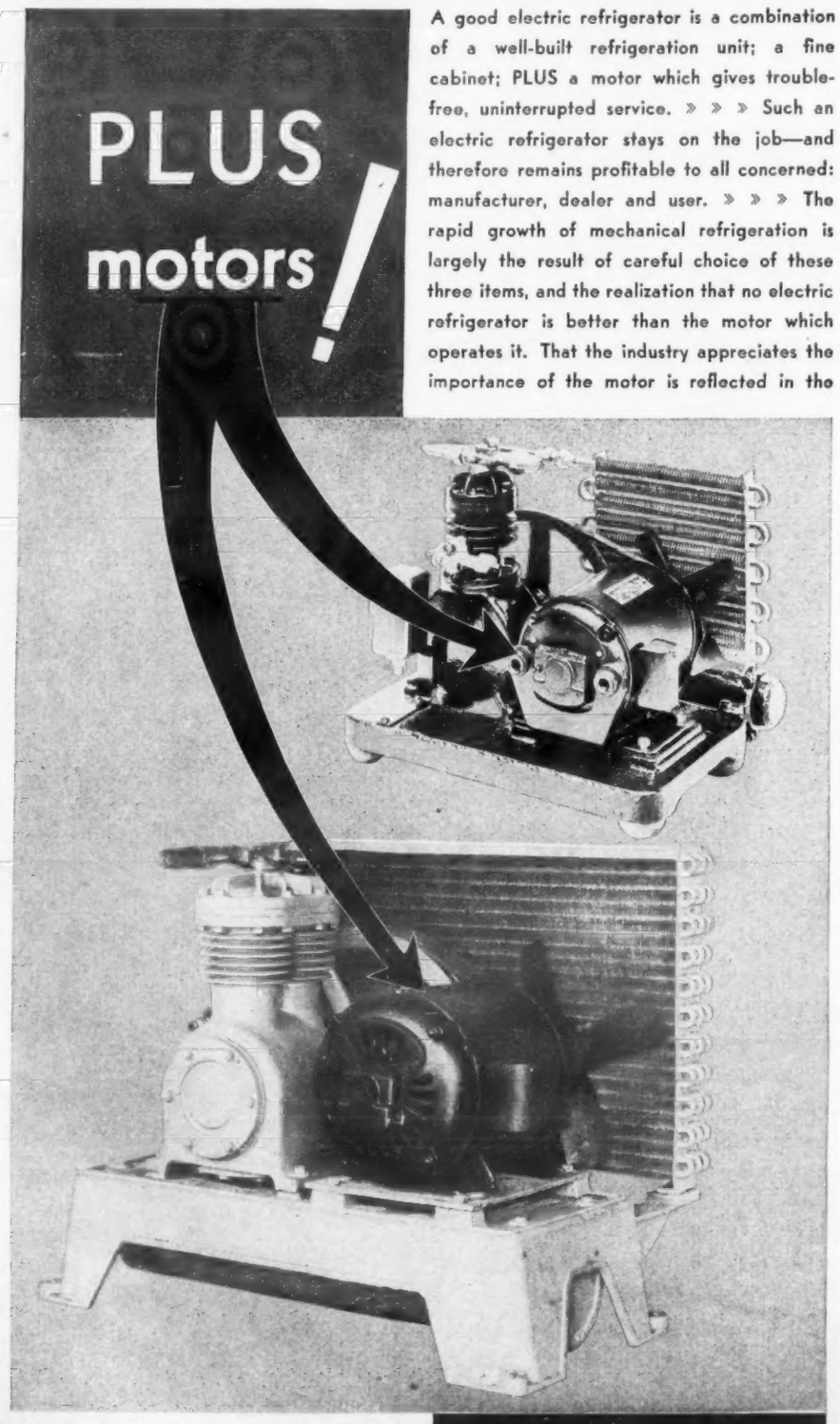
PITTSBURGH—Servicing ethyl chloride refrigerators is an operation which not many independent service men are prepared to do, but Anthony Payne, proprietor of the Doven Soda Fountain Co., 2824 Penn Ave., here, has built up an organization to service all Coldak and Iroquois electric refrigerators using ethyl chloride.

His five service men are also trained to service Frigidaire and Merchant and Evans machines. May-Stern & Co., a furniture house distributing Merchant & Evans refrigerators here, has arranged for Mr. Payne's men to install and service all its M. & E. machines.

In starting his company some four years ago, Mr. Payne intended to specialize in the servicing of soda fountain equipment. However, so many soda fountain users have been buying new equipment on which service is not yet necessary, he says, calls for soda fountain service have diminished steadily. Fortunately, electric refrigeration service has filled in very well with his experience and equipment.

Mr. Payne has no trouble getting replacement parts for any except "orphan" machines—in these he either uses parts of other types, or parts made in his own machine shop.

The Iroquois unit was a good machine with the exception of leaks at the shaft-seal, he says, and this trouble he claims to have eliminated by the design of his own special seal. The disc seal of Iroquois machines is replaced by a metal packing seal built by a local brass foundry to specifications furnished by Mr. Payne himself.



A good electric refrigerator is a combination of a well-built refrigeration unit; a fine cabinet; PLUS a motor which gives trouble-free, uninterrupted service. » » » Such an electric refrigerator stays on the job—and therefore remains profitable to all concerned: manufacturer, dealer and user. » » » The rapid growth of mechanical refrigeration is largely the result of careful choice of these three items, and the realization that no electric refrigerator is better than the motor which operates it. That the industry appreciates the importance of the motor is reflected in the wide preference and adoption of WAGNER motors. » » » Wagner motors are the product of forty years of experience in motor building and some fifteen years of close co-operation with manufacturers of domestic and industrial refrigerators. Their wide preference and adoption by the electric refrigeration industry attests to their exceptional fitness for refrigeration duty. Illustrations. Upper—Wagner 1/6 hp. rubber-mounted motor with totally-closed end plates. Lower—Wagner 2 hp. rigid-mounted motor with open end plates. » » » » » »

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For further information address Revere Copper and Brass Incorporated, 230 Park Avenue, New York City.

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SERVICE HINTS

By FRANK W. GRAY

A CREAMERY job recently installed by a western concern which, specializing in commercial refrigeration, called for an interesting variation of design in temperature control. A small walk-in box, a 10-ft. display counter, and a 20-hole capacity ice cream hardening cabinet were connected up with a methyl chloride system.

The walk-in cooler and display counter, being used for the storage and display of dairy products, required a temperature of about 38° F. The ice cream hardening cabinet, however, required a temperature of 20° F. below zero.

It was decided to connect up all three refrigerated units to one compressor, using a snap-action temperature control valve, installed in the main suction line leading back to the compressor from the box and display counter, to maintain the temperature differential.

Multiple finned coils with 100 per cent vertical surface area were installed in the box and display counter, these coils being operated with thermostatic expansion valves. The ice cream hardening cabinet was heavily coiled within a brine sleeve, and was also operated with a thermostatic expansion valve.

A separate suction line was run direct to the compressor from the ice cream cabinet to prevent condensation of refrigerant in the low-temperature side of the system when the machine was shut down.

After the system was put into operation it was found that the results were unsatisfactory. Temperature was satisfactorily maintained in the box and display counter, the snap-action valve coordinating this side of the system, but periodic rises in temperature occurred in the ice cream hardening cabinet.

Also, when the compressor started up, the suction line from the ice cream cabinet frosted back to the compressor, and even covered the machine with ice. The liquid refrigerant thus flooding back to the crank case of the machine boiled out most of the oil, and caused a pounding of dry bearings.

It was very evident that, in spite of the separate suction lines connecting the high and low temperature sides of the system with the compressor, the dry gas from the high temperature side was condensing in the extremely cold coils of the ice cream cabinet when the machine was shut down and the snap-action valve released.

The service men were at a loss just how to correct this condition. Various adjustments of the temperature control valve, and the pressurestat were tried, but to no avail. Of course, ideal conditions could have been obtained by putting a separate compressor on the ice cream cabinet, but the price of the job did not permit this.

Finally it was decided to try to prevent this condensation of refrigerant and frosting back, by installing another dual temperature snap-action valve in the suction line leading back from the ice cream cabinet.

This second valve was installed, and the system was balanced up by the following adjustments: (1) the snap-action valve controlling the temperature of the box and display counter was set to cut out at 10-lbs. pressure, and in at 20-lbs. pressure; (2) the snap-action valve in the suction line leading from the ice cream cabinet was set to cut off at 15 in. of vacuum, and to cut in at about 1-lb. pressure; (3) the pressurestat on the machine was set to cut out below 15 in. of vacuum, and in at 4-lbs. pressure.

Then the thermostatic expansion valves were adjusted to frost line. These adjustments balanced up the system, and no further trouble was experienced with the job.

This experience should be of value to many service men who have encountered frost backs in multiple systems in which moderate temperature and sharp temperature cooling units are operated together. The use of a second dual temperature valve effectively prevents flooding of refrigerant into the sharp temperature side of the system, which is the cause of such back frosting.

An ingenious display counter installation for the keeping of fish was recently designed by a dealer in San Francisco. The purchaser wanted to have a layer of ice in the counter upon which he could lay metal racks displaying the fish. Then, he wished to have low-temperature compartments in the under part of the case where the fish could be stored for several days.

The trouble with most installations where layers of ice are frozen over refrigeration coils ("skating rink" installations, as they are popularly named), is that the surface of the ice alternately freezes and thaws with the cycles of the machine.

While this can to some extent be prevented by the use of a brine tank inclosing the skating rink, there is still a constant thawing action when the machine is shut down. In addition to this, the fish displayed on such a layer of ice would be cold on the bottom but warm on the upper side.

The service engineer in this instance installed a brine tank with flanged edges to hold the layer of ice, the tank extending within about four inches of the sides and ends of the case, to allow for air circulation into the compartments below.

Then, he installed a long multiple finned coil along the top of the case so that the cold air from this coil circulated directly down over the fish which were laid on metal racks on the sheet of ice.

The addition of this overhead coil prevented thawing of the ice, balanced up the temperature in the top of the case, and also provided ample refrigeration for the compartments in the bottom of the case where the fish were kept in good condition for periods as long as two weeks at a time.

The refrigeration of fish has been a constant problem. In order to be kept fresh, fish must be kept at a temperature below freezing, and must not be dried out by low-temperature coils.

The multiple finned coils with 100 per cent surface area are the best to use for refrigeration of fish. Cases are now being marketed with metal drawers in which various types of fish can be stored, and which help to prevent dehydration.

Even when fresh fish are frozen in a sharp room, and are glazed with a coating of ice, they deteriorate when stored for a length of time. The time is coming when most fish will be preserved by the quick-freezing process, and when refrigeration dealers will be called upon to furnish storage facilities at a temperature of zero.

OIL BURNER MANUFACTURERS REPORT INCREASE

NEW YORK—Business increases during the first six months of 1931 were reported by 25 oil burner manufacturers at a recent conference in Toronto.

The increases ranged from a few per cent in some cases to as high as 107 per cent in others. One manufacturer reported a 78 per cent increase over 1929 which was the banner year for the industry.

Maryland Electrolux Men Hold Schools

CUMBERLAND, Md.—Employes of the Gas & Electric Appliance Co., including both sales and installation men, recently concluded a series of three evening classes on gas refrigeration under the tutelage of Leo Lebois, Electrolux sales engineer.

Salesmen found their time too fully occupied with prospects during the day to permit attendance at that time, so all sessions were at night.

The roll call included: T. B. Cumisky, salesman; Jack Billard, installation; Alfred Wolfe, installation; L. Wadsworth, service; Fred Goss, shop foreman, Norman Drake, salesman; Leo Lebois, instructor; Michael Monahan, salesman; W. B. Helbert, salesman; F. G. Walters, salesman; D. B. Bear, business manager; Alva Williams, agent; and Henry Conners, watchman.

MULLINS CO. GETS ORDERS

SALEM, Ohio—Mullins Mfg. Corp., manufacturer of Mullins all-steel cooling units, has secured contracts for metal body stampings from two automobile manufacturers, totaling over $1,000,000.

J. H. DOUCETT NEW SALES MANAGER OF REVERE, INC.

NEW YORK—Donald Dallas, president of Revere Copper and Brass, Inc., has announced the appointment of J. A. Doucett as vice president and general sales manager with offices at 230 Park Ave., New York City.

Mr. Doucett, who has enjoyed a long experience in the brass and copper industry, was previously vice president and assistant general sales manager.

Before that he was president of the Michigan Copper and Brass Co. in Detroit, now the Michigan division of Revere.

Announcement is also made of the appointment of Vincent W. Allen as manufacturing manager of the corporation. Mr. Allen is to be located at the general offices of Revere Copper and Brass, Inc., Rome, N. Y.

EAST BAY REFRIGERATION CO. IS ORGANIZED

OAKLAND, Calif. — (UTPS) — The East Bay Refrigeration Products Corp., Ltd., has been formed with authorized capital of $200,000, for the purpose of manufacturing refrigeration equipment.

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CONDENSERS
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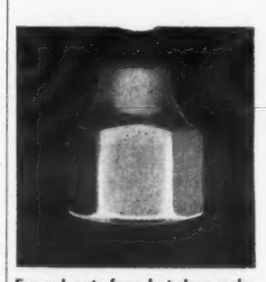
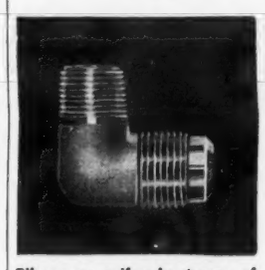
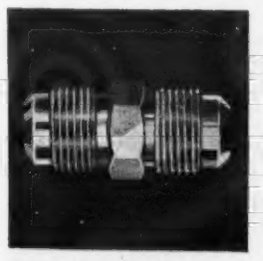

Forged nuts from hot slugs make extremely strong unions


Elbows are uniformly strong—of close grained forged brass

BUILT RIGHT—TO STAY TIGHT

Send, now, for your copy of the most complete and comprehensive fitting catalog published . . . our catalog No. 36


Unions, from extruded brass rod, make strong couplings

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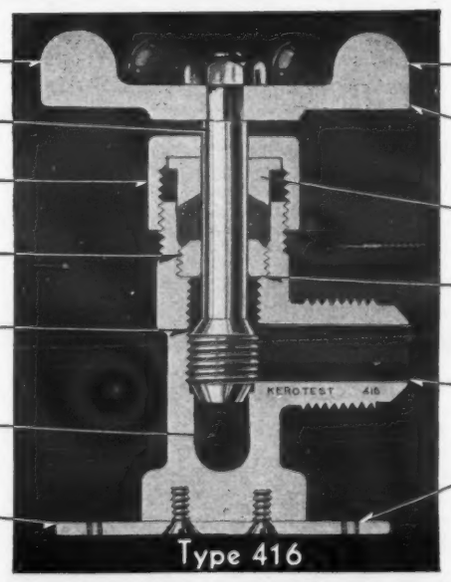
Only 3½" high when full open
Chrome Nickel Steel stem, Chrome plated
Outside type packing nut
Bushing threaded and soldered into body
Stem bevelled for metal to metal back seat in full open position
Unrestricted clear openings equal to copper tubing
Heavy Cadmium plated steel mounting flange
Wheel is removable for convenience when repacking
Large handwheel specially knobbed for firm hand grip
Packing follower makes great compression on packing
"Pressure tested" metal to metal back seat when stem in full open position
Maximum size ½" S. A. E. on all 3 openings
Holes in mounting flange accessible for attachment in shallow knockout boxes
KEROTEST 416
Type 416

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"Pressure tested" metal to metal back seat when stem is in full open position . . . Chrome nickel steel stem . . . Hand wheel removable for convenience in repacking . . . Holes in heavy cadmium plated steel mounting flange accessible for attachment in shallow knockout boxes . . . Our nearest distributor will be glad to give you all the facts and prices.

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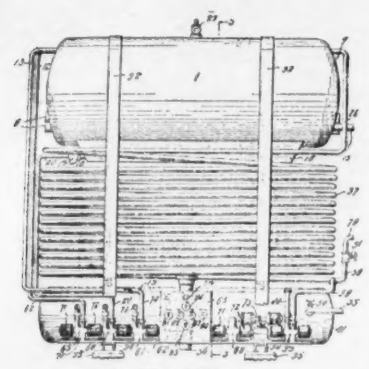
LATEST PATENTS IN REFRIGERATION FIELD

ISSUED JULY 14

(Concluded from Last Issue)

1,814,358. REFRIGERATION APPARATUS. Leonard Kay Wright, Long Island, N. Y.



1,814,358

Filed Mar. 1, 1928. Serial No. 258,358. 10 Claims. (Cl. 62—118.)

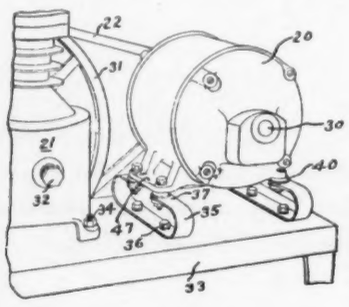
1. A generator-absorber comprising a container, abutting heating and cooling coils therein.

1,814,915. REFRIGERATION SYSTEM. Ralph V. Grayson, Macon, and Claud M. Foster, Atlanta, Ga., assignors of forty one-hundredths to Polar Products, Inc., a Corporation of Georgia. Filed Apr. 9, 1930. Serial No. 442,884. 10 Claims. (Cl. 62—102.)

1. Refrigeration system comprising a continuous conduit for the closed circulation of refrigerative air, including a refrigerating unit for chilling the air, a plurality of horizontal tunnels arranged in parallel in said system with their ends communicating with vertical limbs of said system, and a blower for forcing refrigerated air through said tunnels.

ISSUED JULY 21

1,815,170. REFRIGERATING APPARATUS. Otto M. Summers, Dayton, Ohio, assignor to Frigidaire Corporation, Dayton, Ohio, a Corporation of Delaware. Filed Mar. 24,



1,815,170

1928. Serial No. 264,503. 2 Claims. (Cl. 248—16.)

1. A support for a motor, comprising a plurality of substantially C-shaped metal springs having their adjacent edges secured to said motor, and sound deadening material between said motor and said springs substantially as described.

1,815,174. TUBE EXPANDER AND THE LIKE. Gustav Wiedeke, Dayton, Ohio, assignor to Gustav Wiedeke Company, Dayton, Ohio, a Copartnership consisting of Gustav Wiedeke, Otto Wiedeke, and Robert Wiedeke. Filed Dec. 6, 1929. Serial No. 412,081. 6 Claims. (Cl. 153—82.)

1. In a tube expander, a frame adapted to be inserted in a tube which is to be expanded, expanding devices carried by said frame, and means to rotate said frame and impart inward movement thereto, said frame having a part fixed against movement with relation thereto and arranged to engage and flare the end of said tube as said frame is rotated and moved inwardly.

1,815,299. AUTOMATIC TEMPERATURE REGULATOR. Ernest Greby, Issy-Les Moulineaux, France, assignor, by mesne assignments, to Geo. M. Cressaty, Paris, France. Filed Aug. 11, 1924. Serial No. 731,496, and in France June 6, 1924. Renewed Oct. 16, 1928. 21 Claims. (Cl. 200—139.)

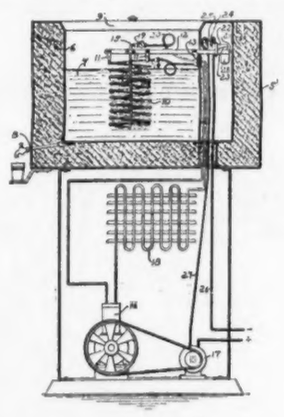
1,815,315. REFRIGERATING APPARATUS. Charles F. Kettering, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed Apr. 13, 1927. Serial No. 183,459. 5 Claims. (Cl. 248—16.)

5. In combination, a system comprising a driven member and a driving member therefor, common means for supporting said members, the movement of said members, during normal operation, setting up oscillation of the system as a whole about an axis, and supporting and bracing means for resiliently supporting the system substantially at said axis and for yielding limiting the lateral movement of said system.

1,815,356. THERMOSTATIC VALVE. J. T. Huntington, Lansing, Mich. Filed May 14, 1930. Serial No. 452,453. 4 Claims. (Cl. 236—102.)

1. A thermostatic valve comprising a valve body having a valve seat, a cap detachably fitted to said body, a pin mounted in said cap, a screw having a sliding and permanent connection to said pin, a valve disk threaded on said screw and cooperating with said valve seat, means to prevent turning of said disk relatively to said cap, and an expansible thermostatic element mounted in said valve body and operative on said screw.

1,815,383. REFRIGERATING SYSTEM. Hugh J. Scullen, Detroit, Mich., assignor to Copeland Products, Inc., a Corporation of



1,815,383

Michigan. Filed Aug. 2, 1928. Serial No. 296,915. 5 Claims. (Cl. 62—4.)

1. A refrigerating apparatus including a heat dissipating device and a movable heat absorbing device, and means, controlled by the movement of said absorbing device, independent of any movement of the heat dissipating device, for alternately operating said heat dissipating device.

1,815,405. PORTABLE REFRIGERATOR. Mattie Jane Hewitt, New Orleans, La. Filed May 29, 1929. Serial No. 366,980. 12 Claims. (Cl. 62—32.)

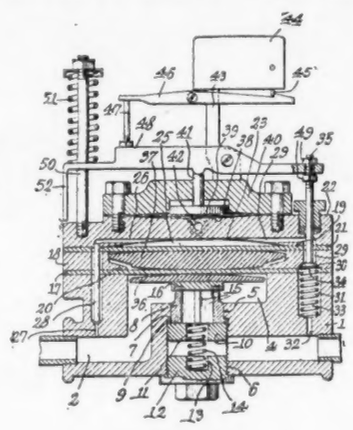
1,815,421. REFRIGERATION. Thomas Shipley, York, Pa., assignor to York Ice Machinery Corporation, York, Pa., a Corporation of Delaware. Filed Feb. 7, 1929. Serial No. 338,280. 12 Claims. (Cl. 62—126.)

1. The method of refrigeration, which consists in establishing a closed evaporator circuit, maintaining in said circuit a definite liquid level substantially below the highest elevation in said circuit, withdrawing gaseous refrigerant from said circuit at a point adjacent the top thereof, introducing liquid refrigerant below the normal liquid level therein and at a pressure higher than evaporator pressure, and applying the resulting rapid evolution of vapor from the entering refrigerant to elevate liquid refrigerant and establish liquid circulation.

1,815,537. VALVE. Michael Henry Ackerman, Mansfield, Ohio, assignor of one-half to Louis C. Sickel, Caledonia, Ohio. Filed Aug. 2, 1928. Serial No. 297,055. Renewed May 28, 1931. 7 Claims. (Cl. 251—127.)

1. The combination with a structure having a space therein leading to a valve seat, of opposed members detachably mounted within and partly filling said space, said members being held together by opposed portions of the wall of the structure, there being a clearance space between the wall of the structure and one of the members providing a passage extending longitudinally within the structure to the valve seat, a valve having a stem mounted for reciprocation between said members, means on the stem housed by and cooperating with the members for limiting the movement of the valve relative to the seat, and means held at one end between the members and engaging said structure for holding the members to the structure.

1,815,538. AUTOMATIC VALVE. Michael Henry Ackerman, Mansfield, Ohio, assignor of one-half to Louis C. Sickel, Caledonia,



1,815,538

Ohio. Filed Aug. 2, 1928. Serial No. 297,057. 14 Claims. (Cl. 62—2.)

1. A pressure controlling valve, including a casting having a fluid inlet and a fluid outlet, a valve for closing communication between the inlet and outlet, a diaphragm for receiving pressure from the inlet, a second diaphragm having a larger active area than the first named diaphragm, a bypass from the inlet to the outlet for directing pressure on to the second diaphragm, means for transmitting motion from one diaphragm to the other, and pressure operated mechanism for controlling pressure over the second diaphragm.

1,815,567. BULB ASSEMBLY FOR TEMPERATURE RESPONSIVE DEVICES. Lawrence C. Irwin, Brooklyn, N. Y., assignor to Charles J. Tagliabue Mfg. Co., New York, N. Y., a Corporation of New York. Filed Aug. 1, 1928. Serial No. 296,850. 2 Claims. (Cl. 297—3.)

1,815,864. COOLING DEVICE. Ella Patrick, Olathe, Colo. Filed Feb. 5, 1930. Serial No. 426,089. 5 Claims. (Cl. 261—106.)

1. In combination, a housing, an electric fan located therein, a perforated water distributing pipe located within the housing and spaced from the fan, a fabric screen suspended from said pipe, a strip of flexible material extending from said pipe and engaging the top of the housing and covering the perforations of the pipe, and means to adjust the strip with respect to the perforations to control the passage of water through said perforations.

ISSUED JULY 28

1,815,961. REFRIGERATOR OF THE ADSORPTION TYPE. Ivar Amundsen, Oslo, Norway. Filed Mar. 10, 1930. Serial No. 434,739. Renewed June 16, 1931. 20 Claims. (Cl. 62—118.)

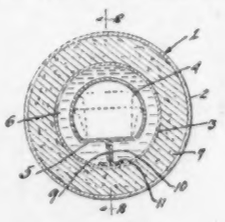
1. In a refrigerator of the adsorption type an adsorption vessel, means for intermittently heating the same, a heat accumulating body, said adsorption vessel and said heat accumulating body having adjacent substantially parallel surfaces and means for establishing heat exchanging relations between said adjacent surfaces.

1,815,962. REFRIGERATING APPARATUS Frank W. Andrews, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed Apr. 28, 1927. Serial No. 187,355. 3 Claims. (Cl. 62—115.)

1. Refrigerating apparatus comprising an evaporator, a compressor, a condenser, conduits connecting said evaporator, compressor and condenser in a closed circuit in the order named, means for closing the conduit between the condenser and evaporator, means for closing the entrance to the evaporator in response to the quantity of liquid refrigerant in the evaporator, and means between said two closing means for admitting a supply of liquid refrigerant.

1,816,111. RADIATOR OR COOLER. Sebastian Ziani De Ferranti and John Turner, Hollinwood, England, assignors to Ferranti, Inc., New York, N. Y. Filed May 2, 1929. Serial No. 359,910, and in Great Britain July 3, 1928. 3 Claims. (Cl. 257—140.)

1,816,211. SHARP FREEZING UNIT. Lloyd G. Copeman, Flint, Mich., assignor to Copeman Laboratories Company, Flint, Mich., a



1,816,211

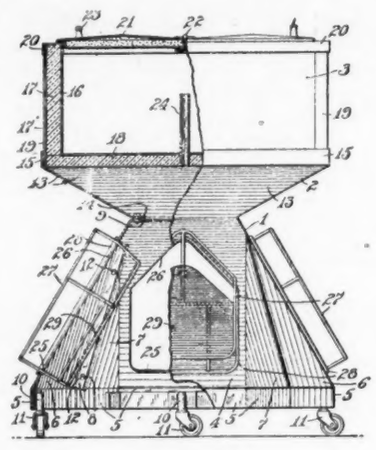
Corporation of Michigan. Filed Apr. 24, 1930. Serial No. 446,909. 7 Claims. (Cl. 62—95.)

7. A cooling unit for refrigerating systems comprising a pair of spaced shells adapted to receive a refrigerant, said inner shell having a portion of the surface thereof flattened and reinforced against collapsing, said reinforcing portion being connected to said outer shell, and a mass of material surrounding the outer shell, said material having relatively good heat conducting and "hold-over" properties.

1,816,426. BOTTLE COOLING BOX. Chester A. Frick, Muncie, Ind., assignor to Glascock Brothers Mfg. Company, Muncie, Ind., a Corporation of Indiana. Filed Jan. 23, 1928. Serial No. 248,699. 8 Claims. (Cl. 312—36.)

1. In a device of the character described the combination with a U-shaped transversely corrugated tub, of substantially arcuate guides co-operating with said corrugations adjacent the edges of said tub to form tubular passageways at the exit and entering ends of said tub and fins cooperating edgewise with the ridges of said corrugations to increase the depth thereof.

1,816,427. BOTTLE DISPENSING REFRIGERATOR. Chester A. Frick, Muncie, Ind., assignor to Glascock Brothers Manu-



1,816,427

facturing Company, Muncie, Ind., a Corporation of Indiana. Filed June 21, 1929. Serial No. 372,776. 4 Claims. (Cl. 211—74.)

1. A supporting stand for bottle cooling receptacles, comprising a pyramidal base, comprising substantially triangular panels having inturned flanges at their edges, the flanges of the adjacent panels abutting and being detachably connected, and an inverted pyramidal support removably mounted on said base and constructed to receive a bottle dispensing refrigerator.

1,816,452. DISPENSING APPARATUS. Albert R. White, Cleveland, Ohio, assignor to Glascock Brothers Manufacturing Company, Muncie, Ind., a Corporation of Indiana. Filed Apr. 1, 1927. Serial No. 180,164. 8 Claims. (Cl. 312—36.)

1. An apparatus of the character described including a feeder having a shell with a notch extending part way through the same, the bottom wall of said notch being inclined, and a rod normally resting in the lower end of said notch and laterally movable therein.

1,816,455. BOTTLE COOLER. Clayton Bruce Wingate, Albany, Ind., assignor to Glascock Brothers Manufacturing Company, Muncie, Ind., a Corporation of Indiana. Filed Dec. 27, 1926. Serial No. 157,189. Renewed Feb. 4, 1929. 8 Claims. (Cl. 312—36.)

5. In a cooler for bottles, the combination with a liquid tight container for a refrigerating liquid having an inlet opening through its top and at one end and an outlet opening at its top at the opposite end, a guide horizontally mounted within said container in a position to be submerged in the refrigerant and constructed to support the bottles side by side in an upright position, said guide being reciprocably mounted in the container to move horizontally and having a movement relatively to the container a distance equal to the width of a bottle.

1,816,511. METHOD OF TREATING ICE. Howard Turner Barnes, Montreal, Quebec, Canada, assignor to Union Carbide Company, a Corporation of Virginia. Filed July 24, 1928. Serial No. 295,042. 2 Claims. (Cl. 61—1.)

1,816,585. REFRIGERATING APPARATUS. Henry G. Jancsy, Everett, Mass. Filed Apr. 2, 1929. Serial No. 352,006. 2 Claims. (Cl. 62—101.)

1. A cooling apparatus comprising an insulated casing having within it a cooling compartment, a cooling fixture arranged inside the casing in cooling relation to said compartment, a main tank for containing a body of refrigerant located within the casing above said fixture, pipe connections between the main tank and the cooling fixture whereby a thermosiphonic circulation will be established between the tank and fixture for refrigerant contained therein, an auxiliary tank located within the main tank, a liquid in the auxiliary tank freezable by a refrigerant circulated through the main tank, and valve-controlled connections leading from the main tank and cooling fixtures respectively with extension through the insulated casing whereby a refrigerant may be circulated through said main tank and cooling fixture from a point outside said casing to freeze the liquid in the auxiliary tank and afterward be left in the main tank and cooling fixture to circulate therein by thermosiphonic action as aforesaid.

1,816,622. TRAY FRONT. Robert S. Taylor, Evansville, Ind., assignor to Electrolux Servel Corporation, New York, N. Y., a Corporation of Delaware. Filed Nov. 19, 1930. Serial No. 496,598. 6 Claims. (Cl. 62—108.5)

1. In combination, a substantially rectangular tray having a bracket formed integrally with one end thereof, a plate having a portion struck out to form a handle and secured to said bracket in such relation to said tray that said plate extends beyond the top and side edges thereof, and the bottom edge of said plate is spaced vertically above the bottom of said tray.

1,816,638. REFRIGERATING UNIT. Lloyd G. Copeman, Flint, Mich., assignor to Copeman Laboratories Company, Flint, Mich., a Corporation of Michigan. Filed June 16, 1926. Serial No. 116,321. 11 Claims. (Cl. 62—95.)

1. A refrigerating unit comprising in combination, a cabinet, a lining therefor defining a plurality of chambers including a refrigerating chamber and a food chamber, and a mechanical cooling unit embedded in said lining of the refrigerating chamber.

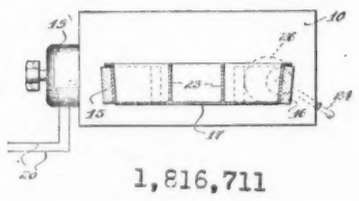
1,816,694. REMOVABLE SHELF SUPPORT FOR REFRIGERATORS. Harold L. Pope, Grand Rapids, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed Aug. 31, 1927. Serial No. 216,590. 2 Claims. (Cl. 248—18.)

1. A shelf supporting structure comprising a wall having an aperture formed therein, said aperture having intercommunicating portions of larger and smaller cross-sectional dimensions, a stud bolt having a head smaller than the larger portion of the aforesaid aperture but larger than the smaller portion thereof, a resilient spacing member adapted to engage the wall on the side thereof opposite the head of the stud bolt, said spacing member having an aperture formed therein through which the stud bolt projects, an internally threated peg operatively associated with the end of the stud bolt and abutting the spacing member, and a shelf supported by said peg.

1,816,698. REFRIGERATED CABINET. John R. Replogle, Detroit, Mich., assignor to Kelvinator Corporation, Detroit, Mich., a Corporation of Michigan. Filed Sept. 8, 1927. Serial No. 218,173. 5 Claims. (Cl. 220—9.)

2. In a refrigerated food storage cabinet, a frame, walls enclosing said frame defining a chamber, said chamber having a food storage compartment therein, the top wall of said cabinet being formed of molded material having an aperture therethrough, the interior portion of said moulded wall being formed with recesses adjacent said aperture, and heating insulating material secured in said recesses.

1,816,711. FREEZING TRAY HEATING DEVICE. Arthur W. Berdesford, Detroit, Mich., assignor to Kelvinator Corporation,



1,816,711

Detroit, Mich., a Corporation of Michigan. Filed Aug. 18, 1927. Serial No. 213,784. 6 Claims. (Cl. 219—47.)

1. In a freezing tray heating device adapted to removably support a freezing tray, means for clampingly engaging a metallic freezing tray and means for simultaneously inducing an electrical current therein.

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COPELAND GASOLINE UNIT USED ON TRUCK

MT. CLEMENS, Mich.—Installation of Copeland refrigeration equipment, driven by a small gasoline motor on the ice cream truck of the Ross Dairy Co., Manistee, Mich., has been made, according to R. M. Douglass, advertising manager of Copeland Sales Co.

The unit, which was recently placed on the market, operates the truck at a temperature of 8° F. and the carrying capacity has been increased from 300 gallons to 340 gallons.

Gasoline motors are used to power three condensing units—the models being QG-252, RG-516, and XAG-1200. The first two motors are one hp. and the third one generates 2½ hp.

The condensing units are operated by a single cylinder, four cycle, air cooled gasoline motor in place of an electric motor. The motors are Briggs and Stratton models. Each motor has a built-in-flywheel magneto.

The engines are started by means of a foot lever and are stopped by a reverse action type temperature control which grounds the ignition system when the cut-out point has been reached.

Gasoline consumption of QG and RG models is at the rate of two pints an hour when operated under full load. The tanks will hold one gallon while the XAG tank has a capacity of one and one-quarter gallons. The consumption of the large machine is 3 1-3 pints per hour.

Model RG-516 has an equivalent ice melting effect of 500 pounds per 24 hours, while model QG-252 has an equivalent of 250 pounds per 24 hours. Model XAG-1200 has an equivalent of 1200 pounds of ice per 24 hours.

The motors can be attached to Copeland cooling coils or submerged type coils.

Factory prices on the models are: QG, $225; RG, $295, and XAG, $450. Each unit is charged with five pounds of methyl chloride.

FOUR-CYLINDER UNIVERSAL TRUCK ENGINE DESIGNED

OSHKOSH, Wis.—The Universal Motor Co. here, recently installed one of their four-cylinder gasoline engines in a mechanically refrigerated truck of the Carver Ice Cream Co., a local dairy. The gas engine is belted directly to the compressor operating the refrigeration equipment.

The refrigerating machinery, including the gas engine, compressor, liquid receiver, condenser, and electric motor for driving the compressor when the car is in the garage, are all mounted in a compartment behind the driver's seat.

The gas engine is of the 4-cycle type, with a displacement of 45 cu. in. It is equipped with an automobile type of water-cooled radiator which is cooled by a fan which forces air across all the apparatus by means of a shroud. The fan is direct connected to the crankshaft of the engine.

An automobile type, six-volt starter, generator, and ignition system is furnished with the engine, and connected up to the truck battery. The company also offers an automatic control to start and stop the engine when the temperature in the truck rises and falls within a predetermined limit, according to R. H. Garrison, general sales manager. A mechanical governor controls the speed of the gas engine.

PLYWOOD BOXES USED FOR MOST REFRIGERATORS

CHICAGO—Plywood boxes are used to ship approximately 80 per cent of the refrigerators manufactured in this country, research made by the Chicago Mill and Lumber Co. of this city reveals.

Most of the boxes are constructed of 3-16 inch 3-ply veneer, reenforced with 1 inch staples.

Studies Gas Unit

Novel Electrolux Instruction Rack.

SERVICE SCHOOL INSTALLS ELECTROLUX TEST RACK

PROVIDENCE, R. I.—To instruct installation men in proper methods of adjusting the different controls of the Electrolux refrigerator, the Providence Gas Co. here has designed a novel testing rack.

Each member of the department is required to go through all of the various tests, answering all the questions, and taking the controls apart, according to William Hanson, in charge of the department.

The apparatus consists of a small table on which is mounted two different types of thermostats, burners, water control valves and pressure regulators. This layout is set up in such a way that it enables the men to observe at a glance the operation and actions of the different controls.

With the equipment it is easy for the instructor to give instructions on the proper adjustment of new controls and proper methods used to correct complaints. The hook-up is as follows:

The water is connected with ⅜ in. copper tubing to the Watts pressure regulator, the top half of the regulator being cut so as to show the diaphragm, spring and adjustment screw. From the discharge side of the regulator a short run of copper tubing is made, this being coiled around a piece of 1 in. pipe which is mounted vertically representing a flue or generator stack. Next to this coil the sylphon water control valve is mounted.

The side is cut out and a piece of glass sealed with rubber gasket in its place. This cut-out gives a good view of the sylphon bellows working with the burner mounted at bottom of flue, pressure gauge on water line from regulator, and thermometer on water discharge outlet. It offers a regular unit hook-up.

The operation is as follows: When the burner is lighted the water in the coil is heated by conduction from the pipe and flows to the sylphon valve mounted next at left on table, with pressure gauge in line on inlet side, registering pressure maintained by the Watts regulator. The heated water flowing to sylphon valve causes bellows to expand and with the side cut away it gives a view of this action. On the discharge line at the top a thermometer is inserted in a brass tee, this registering the temperature of the discharge water.

The cut-out bulb of the No. 3 thermostat mounted on coil gives service men an opportunity to test and demonstrate its cut out features.

FAIRMONT CREAMERY USES FRIGIDAIRE-DELCO SYSTEM

DETROIT — Frigidaire condensing units powered by Model 752 Delco gasoline engines are used for cooling the two ice cream trucks used by the Fairmont Creamery Co. here.

Five six-volt batteries in each truck furnish power for starting the motor, and are automatically shut off when the motor begins to operate. They also furnish power for a fan which cools the condenser.

Both of the Meyers bodies are insulated with five inches of cork, and are maintained at a temperature of 30° F. The refrigeration equipment in each truck uses approximately three gallons of gasoline each full day of operation, the owners report.

During the three years that these two sets of equipment have been in use, they have given no trouble, according to mechanics in the Fairmont garage. Three times a year the equipment is completely overhauled.

One of the trucks used is a White. The other was made by General Motors.

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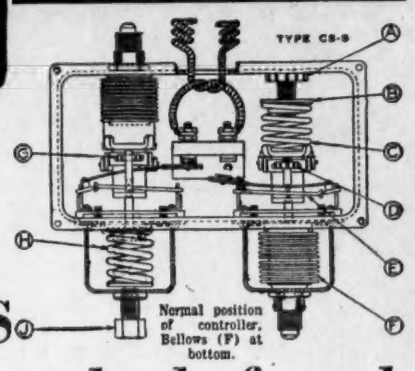

Normal position of controller. Bellows (F) at bottom.

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For use on Commercial Refrigerators, Ice Cream Cabinets, etc., where high pressure or high temperature Cut Out is required, the TAG Model CS-5 furnishes the ideal automatic control.

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Here are some of the outstanding specifications:

LOW SIDE (Pressure)
Differential may be from 3 lbs. or its equivalent in vacuum and pressure to 25 lbs. or its equivalent in vacuum and pressure.
Differential may be increased or decreased in accordance with instructions pasted on inside cover of controller. It may be run up or down over the range.

LOW SIDE (Temperature)
Differential may be from 5° to 25° F.
Differential may be increased or decreased as described above.

HIGH SIDE (Pressure)
Range 100 to 200 lbs.
Differential may be from 10 lbs. to 30 lbs. and may be increased or decreased.
Differential may be run up or down over range.

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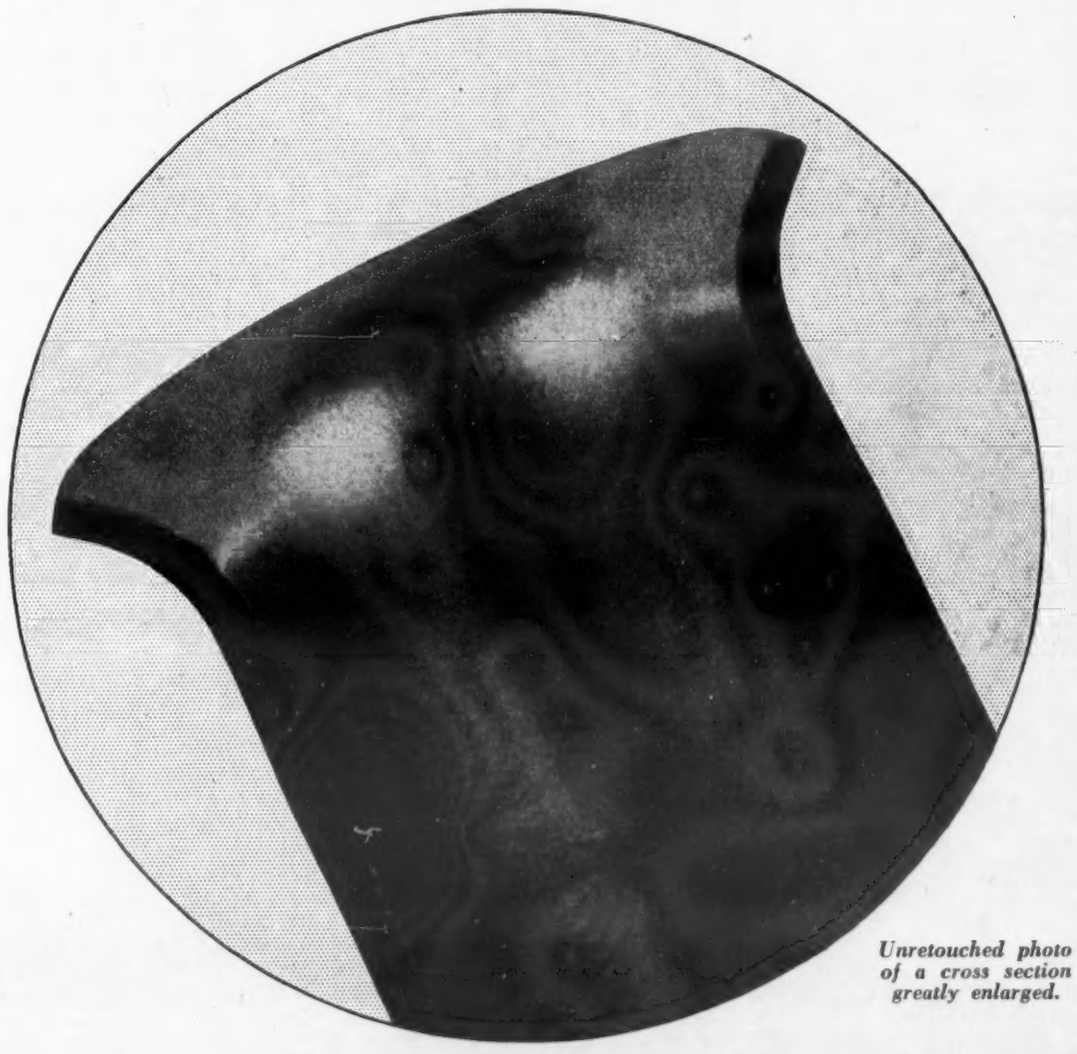

Unretouched photo of a cross section greatly enlarged.

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